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A MAGNETIC SUSCEPTIBILITY DATABASE FOR STONY METEORITES

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1. Introduction

More than 22,000 different meteorites have been catalogued in collections around the world (as of 1999) of which 95% are stony types [Grady, 2000]. About a thousand new meteorites are added every year, primarily from Antarctic and hot-desert areas. Thus there is a need for rapid systematic and non-destructive means to characterise this unique sampling of the solar system materials. Magnetic properties, including susceptibility and natural remanent magnetisation (NRM), can satisfy this need; other types of rock magnetic measurements (hysteresis, thermomagnetic curves, NRM demagnetisation, etc.) destroy the paleomagnetic signal and require the main mass of the studied meteorite be cut. Besides classification, the magnetic properties of meteorites have a direct implication for the interpretation of magnetic field measurements by space probes studying asteroids [*Kivelson et al.*, 1993; *Richter et al.*, 2001], the Moon, or Mars [*Acuna et al.*, 1999]. NRM seems to be more relevant for this purpose but unfortunately NRM values show a far larger dispersion than susceptibility values for a given meteorite due to various secondary magnetisations not related to the remanence of their parent body [e.g. *Wasilewky and Dickinson*, 2000]. Evaluating these secondary magnetisations can be both tedious, and destructive for the sample. By contrast, magnetic susceptibility allows an easy, non-destructive, repeatable, and systematic way to scan meteorite collections.

Although hundreds of studies dealing with the magnetic properties of meteorites have been published so far, only two systematic studies involving a large number (hundreds) of samples have been conducted. Russian studies have been reported by *Herndon et al.* [1972; see also *Gus'kova*, 1976], who produced a synthetic table including 197 stony meteorite samples from 113 different meteorites. Much more recently, *Terho et al.* [1991 and 1993] reported a study of 489 samples from 368 different stony meteorites from Finnish, Swedish and Czech collections. *Sugiura and Strangway* [1987] made various compilations but they did not tabulate the data and the provenance of the meteorites studied is ambiguous; main part probably came from Sugiura's studies on Antarctic finds.

The main purpose of the present contribution is to present in a consistent database the newly performed magnetic susceptibility measurements of meteorites from the Vatican collection [*Consolmagno*, 2001] and several of the major collections from Italy, including those of the Museo Nationale dell'Antartide in Siena [*Folco and Rastelli*, 2000], the University of Roma "la Sapienza" [*Cavaretta Maras*, 1975], the "Giorgio Abetti" Museum in San Giovanni Persiceto [*Levi-Donati*, 1996] and the private collection of Matteo Chinelatto. In particular, the Antarctic Museum in Siena is the curatorial centre for the Antarctic meteorite collection (mostly from Frontier Mountain) recovered by the Italian Programma Nazionale di Ricerche in Antartide (PNRA), as well as for a large number of Saharan meteorites. In the Vatican collection all measurable samples were studied; in the Italian collections the survey was limited to falls, not represented in the Vatican collection, and to Antarctic and Saharan meteorites from the collection in Siena. A total of 785 specimens, from 655 different stony meteorites, was measured, although pairing in the Frontier Mountain (FRO samples) and Dar al Gani (DaG samples) may reduce this number. Only one piece was measured for each numbered FRO or DaG sample while up to 15 different samples were measured on other meteorites.

2. Meteorite classification

Naming and classification of each entry has been checked against the updated reference catalogue of *Grady* [2000] and latest issues of the Meteoritical Bulletin, published by the Meteoritical Society. Only stony meteorites were considered, as the magnetic measurement of massive metal pieces (irons and stony-irons) is quite delicate and requires specific instrumentation. The most abundant meteorites in our database are ordinary chondrites, which are classified into H ("high")-, L ("low")- and LL ("low-low")-groups according to decreasing metallic iron content. Among these groups petrographic types 3 to 6 are distinguished by an increasing degree of metamorphism. Less abundant meteorite groups measured were the enstatite (E) and carbonaceous (C) chondrites, which are further subdivided in different groups. The achondrites correspond to material expelled from large differentiated bodies such as Mars (the SNC group), the Moon (lunites) or from ancient planetesimals in the asteroid belt like Vesta, the presumed parent body of howardites, eucrites and diogenites (the HED clan). Lastly, two other achondrite groups, the aubrites and ureilites, were also measured.

An essential distinction has to be made between "falls", i.e. meteorites seen to fall and recovered soon after their arrival on Earth, and "finds", which are meteorites found incidentally after a certain residence time on Earth. This residence time, which may reach several hundreds kyr for Antarctic meteorites, implies a certain amount of terrestrial weathering that may seriously affect the nature and amount of magnetic minerals present in the meteorite. Therefore, falls (Table 1) and finds will be separated for ordinary chondrites, with a further separation between Antarctic finds (Table 2, mostly Frontier Mountain samples except one Allan Hills and four Yamato samples) and non-Antarctic finds the majority of which being finds from the Sahara (Table 3). Other chondrite groups (E and C) and achondrites are listed in Tables 4 and 5, respectively, specifying the fall or find attribute.

Meteorites are usually fairly homogeneous, but the effect of shock, deformation, and the mixing of material during multiple collisions on their parent bodies can cause heterogeneity such as xenolithic, brecciated or veined material. Notes on these features, if described in literature, will also be reported in tables 1 to 5.

3. Apparent magnetic susceptibility measurements and their reliability

The instrument used in our survey of the Vatican and Italian collections is an alternating field (AF) bridge KLY-2 from Agico, Brno, operating at a frequency of 920 Hz with a magnetic induction of 0.4 mT. This instrument is calibrated before each measurement session using a standard provided by Agico and the drift during each measuring session remains within 0.2 %. For a standard volume, noise level on volume susceptibility (K) is 5 * 10^{-8} SI, reproducibility above 10^{-6} SI is better than 1%, while the maximum measurable K is 0.2 SI. As chondrites may easily reach 1 SI, the major problem encountered is the saturation of the measuring coil. As reducing the mass of sample measured also reduces the representativity of the measurement, and because museum specimens cannot be cut at will, two specific changes with respect to standard K measurements were introduced.

The major improvement comes from replacing the standard KLY-2 coil (4 cm inner diameter) with a larger coil (8 cm inner diameter), which is 6.5 times less sensitive but which allows to measure pieces weighing up to 450 g. However, for H and E class meteorites, saturation was reached for samples near 50 g; for L meteorites saturation occurred at about 150 g. The smaller coil was only used for a few small and weakly magnetic samples. In selecting specimens, a minimum mass of 3 g (i.e. about 1 cm^3) was required, although for some rare meteorites lower masses were measured. In all cases, the precision was better than 1%.

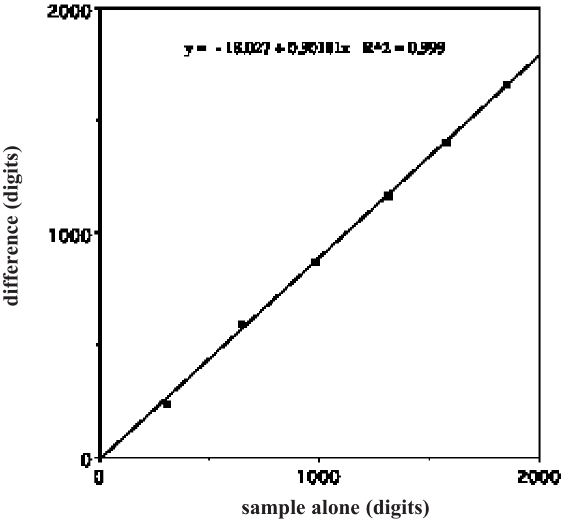

Figure 1. Measure in digits at the highest KLY-2 measuring range of test samples plus Al foils minus the Al foil signal (K(S+Al) – K(Al)) as a function of measure of the same sample alone, K(S). K(Al) of –1700.

In order to obtain data on large H or L specimens for which smaller pieces were not available, the following “compensation” procedure was used. We noted that a “sandwich” of aluminium foils placed perpendicular to the coil axis can create a large negative (i.e. diamagnetic) signal, and so a test was made to see if this could allow the measurement of out-of-range pieces by measuring the specimen and the Al foil sandwich together. An Al sandwich (Al) creating a signal of about –1700 digit was used together with a set of samples (S) with a signal from 250 to 1900 digits (saturation is achieved at 1999 digits) in the largest measuring range of the instrument. Fig.1 shows that K (S+Al) – K (Al) has a very well defined linear correlation with K (S), although the slope is not one. The slope is less than one due to the influence of the negative magnetic field produced by the currents induced in the Al foils by the imposed positive field. However it appears that this shielding effect is linear on the 0-2000 digits range, and we believe that it is safe to extrapolate this linearity up to sample values of 3700 digits (i.e. giving a composite signal below saturation). It is important to note that the K (Al) value is very sensitive to the phase tuning of the instrument and thus has to be measured immediately before the K (S+Al) measure. The resulting signal of the sample (a value above 2000 digits) is then computed from the linear function of Fig.1. The few values (14) obtained using this compensation technique are indicated in the tables. In four large samples, which still saturated even with the Al foils, a lower bound for susceptibility is provided.

Tables report the apparent specific susceptibility χ in 10^{-9} m^3/kg, together with the mass of the sample measured with an electronic balance of 0.01 g precision. Ignoring anisotropy, χ values for a given axis of the sample have a precision of better than 1%. Due to other uncertainties (discussed below) and to the covered range of 4 orders of magnitude, it was more convenient to tabulate the decimal logarithm of χ (in 10^{-9} m^3/kg), to only two decimal places.

The various sources of error in the low field AF susceptibility measurements of meteorite specimens have been detailed by *Terho et al.* [1993]. We will only mention the effect of fusion crust, and the (probably greatest) problem of the anisotropy of the measured samples. Only one arbitrary orientation is used to produce the reported χ values, although ultimately our measuring procedure involved averaging 2 or 3 measurements in different perpendicular orientations. Two types of anisotropy of magnetic susceptibility might be encountered. The first one is due to the preferred orientation of the magnetic mineral grains within the specimen and can only be measured accurately on isometrically shaped samples (a sphere, cube or standard cylinder). As this shaping cannot generally be performed on museum pieces, in literature AMS measurements on meteorites are scarce [e.g. *Morden and Collinson*, 1992]. DaG575, an H5 find, was shaped into a one cm cube. The measured anisotropy (Table 6) indicates that an error up to 0.11 in log χ can occur if one assumes that a single randomly oriented measurement represents the mean susceptibility of the piece. *Morden and Collinson* [1992] have published 11 measurements of anisotropy on L and LL chondrites, for which shape effect should be minor. Their results, summarised in table 6, together with ours, suggest that the expected anisotropy error in log χ should not exceed ± 0.1.

The second type of anisotropy is shape anisotropy. The measured apparent susceptibility K is linked to the intrinsic susceptibility K_i by the relation $K=K_i/(1+N*K_i)$ where N is the shape demagnetisation factor (varying between 0 and 1) of the whole measured body along the measuring axis. When K_i is not negligible with respect to 1 (the case for H and E meteorites and to a lesser degree with L and some C groups) this shape effect may introduce a bias in the apparent susceptibility of an anisometric sample. Obtained values will then differ from the mean K values measured on an isometric sample. In principle this effect could be computed and corrected, as N values are known for simple shapes like ellipsoids, cylinders, and parallelograms [e.g. *Carmichael*, 1992]. Table 6 lists computed mean logχ and anisotropy effects for two modelled shapes (a prolate ellipsoid of axial ratio 2 and a cylindrical plate of axial ratio 5) with a variable intrinsic susceptibility K_i. It appears that, for the range of susceptibility observed in H, the error on logχ due to shape is less than 0.1 and is negligible for logχ<5; however, the actual shapes of real measured samples are not ideal and the theoretical relation is in fact only suitable for a homogeneous ideal sample. Our samples are a two-phase mixture of highly magnetic iron grains, interacting with each other, and weakly magnetic silicates. Therefore, we did not attempt to make any shape correction and we report only the apparent susceptibility in the tables. Some samples are nearly isometric, but axial ratios of two or so are also common. In extreme cases (thin slabs) this ratio can reach 5 to 8. The DaG575 piece has been cut into both a cube and a plate with axial ratio 3, with the short axis parallel to the minimum susceptibility axis obtained on the cube. In such a configuration, shape and fabric anisotropies are constructively added, leading to a rather large possible error (up to 0.17 in logχ). Such a coincidence between shape and fabric axes should be rare. The above examples and modelling for H chondrites suggest that shape anisotropy is a minor effect with respect to fabric anisotropy.

The fusion crust is an external melted layer of about 100 µm in thickness (*e*) that forms during the atmospheric entry of the meteorite [c.f. *Genge and Grady*, 1999]. For an isometric shaped (e.g. cube or sphere) sample of size *d*, entirely covered with crust, the corresponding crust to total volume ratio is 6*e/d*, that is up to 6% for our smallest samples of 1 cm^3. However, as most samples are much larger and are partially or completely free of fusion crust, the usual volume ratio is less than 1%. Furthermore, the chemical composition of the crust is similar to that of the bulk material and the only changes are the oxidation of iron into magnetite and a slight depletion in metallic iron [*Genge and Grady*, 1999]. As magnetite shows the same volume susceptibility as metallic iron, the crust may have a susceptibility value close or a bit lower than the bulk susceptibility of strongly magnetic meteorites (e.g. for logχ>4). In that case, the presence of a fusion crust would have a negligible effect on the measured susceptibility. On the other hand, for weakly magnetic samples such as some achondrites and C chondrites, the magnetite formed in the fusion crust (up to 10%) may lead to a much higher crust susceptibility that would affect the total measurement. A theoretical upper bound of this effect for a sample with fusion crust can be computed assuming a 10 µm-thick, pure magnetite layer around the sample. The additional χ due to the crust in this case would be at most 8.7 * f * $(m)^{1/3}$ 10^{-6} m^3/kg, where f is the proportion of crusted area and m is the mass in g. A possible example of such an effect can be seen for Chassigny, where a 15.7 g piece covered by 10% fusion crust shows a logχ value of 2.98, instead of the 2.73 for the fresh non-crusted piece described in *Rochette et al.* [2001]. The above formula predicts a combined bulk plus crust value of 2.95. Because of this effect, we have usually chosen to measure samples without any crust for meteorite classes known to be magnetically weak. The presence of a fusion crust will be mentioned only for falls, as it is difficult to distinguish fusion and weathering crusts in finds.

4. Observed reproducibility for a given meteorite and cross calibration with previous studies.

The following tests were performed to demonstrate the reproducibility of susceptibility measurements made on different pieces of the same meteorite. First, in Fig.2 we show the correlation of logχ values obtained in the present study on two pieces (mass >3 g) from the same meteorite. The correlation is quite high (regression coefficient R^2 of 0.93), with a difference less than 0.2 in most cases. Larger differences are found in a few cases, usually in brecciated or veined meteorites. As a second test, the same correlation was performed with the measurements reported by *Terho et al.* [1991, 1993] and retabulated here. The measurements in Espoo were performed using a susceptibility bridge working in the same field and frequency range (1025 Hz) than the KLY-2. Again we found a good correlation between Espoo values (without shape correction) and Rome values for the same

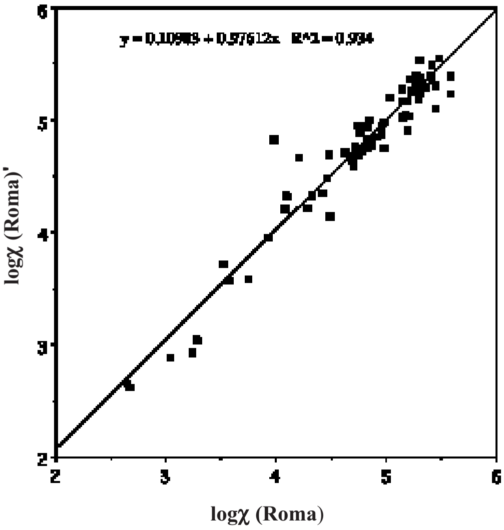

Figure 2. Correlation of logχ values obtained for two pieces (m>3 g) of the same meteorite measured in this study. When more than two pieces are measured, the two largest pieces are compared.

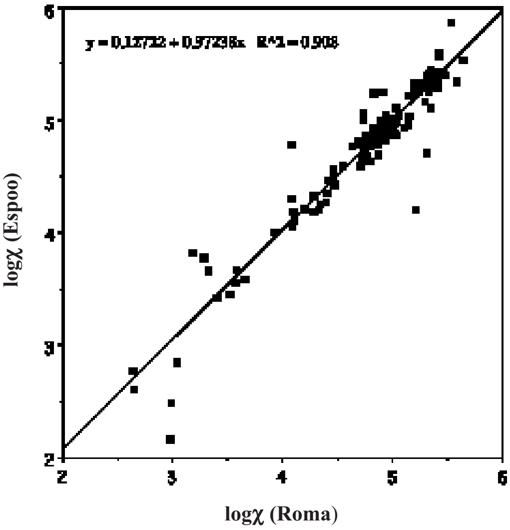

Figure 3. Correlation of logχ values obtained for the same meteorite measured in Espoo [*Terho et al.*, 1991] and in this study; mean values are used when several pieces were measured.

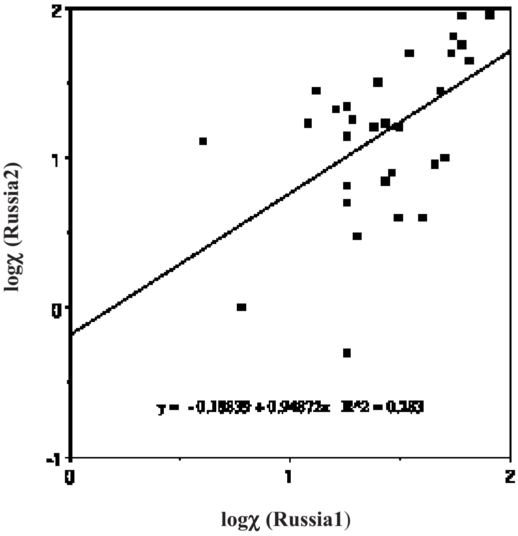

Figure 4. Correlation of logχ values obtained for the same meteorite reported by the two Russian reference 1 and 2 [Herndon et al., 1972]; mean values are used when several pieces were measured.

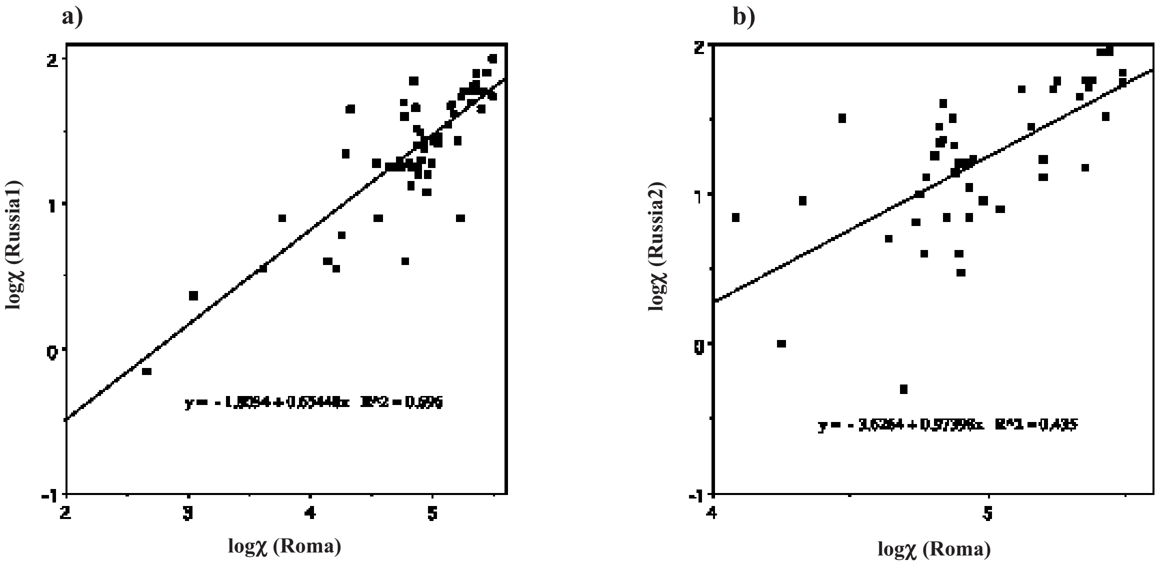

Figure 5. Correlation of logχ values obtained for the same meteorite measured in this study and in Russia, separating Russian references 1 (a) and 2 (b); mean values are used when several pieces were measured.

meteorite ($R^2 = 0.91$; see Fig.3). The regression line obtained is not significantly different from unity. Therefore the Espoo values have been added without correction to the present self-consistent database. The measurements made in Prague, also included in our tables, were not corrected as they were obtained using a Kappabridge and all the standards provided by Agico are cross-calibrated. The cross-calibration made between the values from the same meteorites from Espoo and Prague was also quite good [*Terho et al.*, 1993; $R^2 = 0.96$ on a logχ correlation of 13 couples of stony meteorites].

The situation is totally different for the Russian results. These results were obtained with an astatic magnetometer, i.e. by measuring total magnetisation in the Earth field and separating the remanent and induced components. As mentioned by *Herndon et al.* [1972], there is little reproducibility for a given meteorite in their dataset. The values given by the two cited compilations (1 and 2: unfortunately *Herndon et al.* [1972] neglected to give the corresponding references for 1 and 2) show a regression coefficient close to randomness ($R^2 = 0.28$, Fig.4). *Herndon et al.* [1972] concluded from the Russian data that susceptibility was highly variable for a given meteorite. However, based on the present database, this conclusion does not hold. The problem cannot be simply that one of the two Russian studies is flawed, as comparing our measurements separately with either dataset 1 or 2 does not yield a much better correlation (R^2 of 0.7 and 0.43, respectively; Fig.5). The Russian study 1 may seem more reliable; but removing the four data points with our logχ <4 brings R^2 down to 0.50. Performing the same cut on Fig.2 and 3 data only reduces R^2 to 0.85 and 0.80, respectively. It thus appears that neither of the two data sets compiled by *Herndon et al.* [1972] may be quantitatively reliable, invalidating the conclusions of a number of papers which have used this compilation [e.g. *Sonnet*, 1978]. This non-reliability of Russian data is puzzling. Either an error has been made during the translation and transcription of the data (but no major contradiction is found between [*Herndon et al.*, 1972] and [*Gus'kova*, 1976]), or the astatic method is severely flawed in the case of meteorites. In fact, one major problem of this method is that the NRM interferes with the measurement of induced magnetisation. In the case of large NRM, the measured susceptibility may in fact be contaminated by the remanence.

5. Conclusions

The above-mentioned reproducibility for susceptibility measurements obtained with AF bridges (either in Roma or in Espoo and Prague) demonstrates that a particular meteorite can be characterised by a specific susceptibility within a reasonable error bar. This opens interesting perspectives for meteorite classification. The present integrated database, containing 1034 individual measurements (or the means of several samples for Espoo data), from 289 distinct falls and 460 different finds, will be used in later studies to discuss the magnetic features of meteorites.

As a preliminary example of the interest of this database, the averaged values of the H, L and LL classes, when separated into falls, Antarctic, and other finds (Table 7), clearly demonstrate that weathering has a dramatic influence on magnetic properties. The overall distribution of the data for a given meteorite group is shifted toward significantly lower values for non-Antarctic finds. Antarctic finds yield a smaller but still important decrease in susceptibility. This severe weathering effect on susceptibility casts significant doubt on the magnetic studies of finds and suggests that one should only use falls when discussing the paleomagnetism and bulk magnetic properties of meteorites.

When only falls are considered, magnetic susceptibility is able to distinguish among the LL, L, and H groups fairly well. This conclusion contrasts with previous work which was based on a mixed dataset of falls and finds [*Terho et al.*, 1993]. Our work suggests that a magnetic susceptibility probe on future lander missions to asteroids could provide unequivocal identification of the metallic iron content within the rock and thus, by extension, its analogue meteorite class. Indeed, we note that even after the NEAR mission, asteroid 233 Eros has still not been unequivocally identified with a particular meteorite type. Within a given class of meteorite one may also use magnetic susceptibility to rapidly detect sample heterogeneity, degree of weathering, or misassignment, by comparing the result of a magnetic susceptibility measurement with the present database.

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DATABASE OF MAGNETIC SUSCEPTIBILITY

Table 1. Magnetic susceptibility ($\log\chi$ in 10^{-9} m^3/kg) with sample mass of ordinary chondrites (H, L, LL), falls only. Provenance code: 1 Vatican Observatory, 2 University La Sapienza of Roma, 3 National Antarctic Museum in Siena, 4 Museum Giorgio Abetti in San Giovanni Persiceto, 5 private collections (Matteo Chinellato and Michel Franco), 6 Prague, 7 Espoo. Measurements done by INGV for provenance 1 to 5. Comments code: br: brecciated; v: veined; x: xenolithic, C: fusion crust present on more than 50% of the surface; c: minor fusion crust; a: visible alteration;*: saturating sample measured using Al foil; >: $\log\chi$ lower bound given for still saturating samples.

NAME	*TYPE*	*Logχ*	*mass*	*prov.*	*comments*
AGEN	H5	5.19	36.50	1	v x c
AGEN	H5	5.16	9.18	1	v x
AGEN	H5	5.32	38.3	7	v x
AIR	L6	4.96	8.70	5	a
ALBARETTO	L4	4.56	138.04	2	
ALESSANDRIA	H5	5.35	50.09	2	v *
ALFIANELLO	L6	4.87	151.51	1	c
ALFIANELLO	L6	4.80	66.00	1	
ALFIANELLO	L6	4.88	257.2	7	
ALLEGAN	H5	5.28	8.34	2	
ALLEGAN	H5	5.37	3.05	1	
ALLEGAN	H5	5.30	54.7	7	
ALLEPA	L6	4.69	146.36	2	
ALLEPA	L6	4.81	0.5	7	
ALTA'AMEEN	LL5	4.26	10.6	7	
AMBAPUR NAGLA	H5	5.30	5.12	1	
AMBAPUR NAGLA	H5	5.32	3	7	
ANGERS	L6	4.68	3.96	1	v
APT	L6	4.91	49.78	1	v
ASSISI	H5	5.14	111.42	2	*
ASSISI	H5	5.27	1.90	1	c
ATOKA	L6	4.88	17.28	1	
AUMALE	L6	5.00	120.48	1	v c
AUMIERES	L6	4.63	71.72	1	v c
AUMIERES	L6	4.72	21.63	1	v
AUSSON	L5	4.99	103.13	1	
AUSSON	L5	4.98	47.98	1	c
AUSSON	L5	4.98	37.51	6	
AUSSON	L5	4.95	26.1	7	
BACHMUT	L6	4.84	12.59	1	
BANDONG	LL6	3.87	24.87	1	c
BARBOTAN	H5	5.34	82.46	1	v
BARBOTAN	H5	5.30	9.52	2	v
BARBOTAN	H5	5.12	1.90	1	v
BARBOTAN	H5	5.39	10	7	v
BATH	H4	5.31	37.40	1	br
BATH	H4	4.71	92.5	7	br
BATH FURNACE	L6	4.92	43.87	1	
BATH FURNACE	L6	4.84	26.9	7	
BEARDSLEY	H5	5.20	17.28	1	c
BEARDSLEY	H5	5.03	9.78	1	
BEARDSLEY	H5	5.24	11.5	7	

NAME	***TYPE***	***Logχ***	***mass***	***prov.***	***comments***
BEAVER CREEK	H4	5.26	9.77	2	
BEAVER CREEK	H4	5.29	1.90	1	c
BEAVER CREEK	H4	5.30	11.4	7	
BERLANGUILLAS	L6	4.94	10.81	1	v c
BIELOKRYN	H4	5.31	33.53	2	v
BIELOKRYN	H4	5.24	0.65	1	v
BIELOKRYN	H4	5.39	29	7	v
BJELAJA	H6	5.41	13.03	1	c
BJURBOLE	L/LL4	4.55	190.00	1	
BJURBOLE	L/LL4	4.59	2510	7	
BORGO SAN DONINO	LL6	4.83	17.38	1	br c
BORGO SAN DONINO	LL6	3.98	16.19	2	br
BORI	L6	5.01	23.36	1	v
BORI	L6	4.89	0.5	7	
BORKUT	L5	5.03	1.70	1	
BOVEDY	L3	5.07	15.97	4	
BREMERVORDE	H3.7	4.98	16.45	1	br c
BRUDERHEIM	L6	4.98	11.41	1	c
BRUDERHEIM	L6	4.90	78.8	7	
BUR GHELUAI	H5	5.58	15.23	2	x
BUR GHELUAI	H5	5.24	7.67	2	x
BUSHOFF	L6	4.73	92.49	2	v
BUSHOFF	L6	4.75	4.96	1	v
BUSHOFF	L6	4.80	35.8	7	v
CABEZO DE MAYO	L6	4.92	61.18	1	br
CABEZO DE MAYO	L6	4.93	11.9	7	
CANELLAS	H4	5.31	46.63	2	br
CANELLAS	H4	5.37	2.55	1	br
CANGAS DE ONIS	H5	5.25	46.34	1	
CANGAS DE ONIS	H5	5.25	12.39	1	
CANGAS DE ONIS	H5	5.26	1.9	7	
CAPE GIRARDEAU	H6	5.40	97.05	1	c *
CAPE GIRARDEAU	H6	5.32	6.8	7	
CASTALIA	H5	5.04	17.26	2	br x
CASTALIA	H5	5.20	7.66	1	br x c
CASTALIA	H5	5.11	55.2	7	br x
CERESETO	H5	5.29	11.84	1	br
CHANDAKAPUR	L5	4.86	1.66	1	br
CHANDAKAPUR	L5	4.83	7.1	7	
CHANTONNAY	L6	4.90	24.95	1	br
CHANTONNAY	L6	5.22	62.6	7	br
CHARSONVILLE	H6	5.64	11.79	1	v
CHARSONVILLE	H6	5.53	10.6	7	v
CHTEAU-RENARD	L6	5.04	46.34	1	v c
CHTEAU-RENARD	L6	5.01	7.5	7	v
CHIANG KHAN	H5	5.29	13.55	4	c a
CLAXTON	L6	4.94	9.18	4	c
COLLESCIPOLI	H5	5.37	9.20	1	
COLLESCIPOLI	H5	5.28	108	7	
CRONSTAD	H5	5.38	0.96	1	
CROSS ROAD	H5	5.42	1.95	1	c

NAME	***TYPE***	***Logχ***	***mass***	***prov.***	***comments***
CYNTHIANA	L/LL4	4.47	2.16	1	
CYNTHIANA	L/LL4	4.43	5.4	7	
DANVILLE	L6	4.90	12	7	v br
DHURMSALA	LL6	4.33	85.22	1	
DHURMSALA	LL6	4.33	29.03	1	c
DHURMSALA	LL6	4.20	130.3	7	
DJATI-PENGILON	H6	5.14	10.43	1	
DJATI-PENGILON	H6	5.22	3.7	7	
DJOUMINE	H5-6	5.35	3.07	4	br c
DJOUMINE	H5-6	5.28	2.84	5	br
DORONINSK	H6	5.39	1.64	1	br c
DRAKE CREEK	L6	5.41	4.79	1	v br c
DURALA	L6	4.86	31.61	1	v c
DURALA	L6	4.90	28.6	7	v
EL TIGRE	L6	5.03	11.36	4	c
ENSHISHEIM	LL6	4.08	33.26	1	br
ENSHISHEIM	LL6	4.12	22.60	6	br
ENSHISHEIM	LL6	4.78	3.52	7	br
EPINAL	H5	5.36	3.41	1	
ERGHEO	L5	4.08	106.69	1	
ERGHEO	L5	4.86	32.47	1	
ERGHEO	L5	4.77	17.18	1	
ERGHEO	L5	4.89	55	7	
ERXLEBEN	H6	5.42	18.08	2	
ERXLEBEN	H6	5.49	4.91	1	
ERXLEBEN	H6	5.43	-	7	
ESNANDES	H6	4.94	16.22	2	
FARMINGTON	L5	4.83	108.50	1	br
FARMINGTON	L5	4.94	47.28	1	br
FARMINGTON	L5	4.88	187	7	br
FAVARS	H5	5.50	14.70	1	C
FERMO	H3-5	5.23	18.49	4	br c
FERMO	H3-5	5.26	28.89	4	br c
FISHER	L6	4.90	125.97	1	v
FOREST CITY	H5	5.33	35.76	1	C br
FOREST CITY	H5	4.94	5.62	1	C br
FOREST CITY	H5	5.25	149.3	7	br
FUTTEHPUR	L6	5.39	2	7	v
GAMBAT	L6	4.83	97.92	1	v
GAO-GUENIE	H5	5.26	8.00	3	
GAO-GUENIE	H5	5.28	92.02	4	c *
GAO-GUENIE	H5	5.29	41.47	4	C
GIRGENTI	L6	4.93	52.00	1	v c
GIRGENTI	L6	5.00	5.6	7	
GROSS DIVINA	H5	5.37	9.39	1	
GROSSLIEBENTHAL	L6	4.71	21.30	1	v
GROSSLIEBENTHAL	L6	4.68	19.72	1	v c
GROSSLIEBENTHAL	L6	4.59	177.3	7	v
GRUNENBERG	H4	5.33	1.60	1	v
GUARENA	H6	5.18	166.00	1	*
GUIDDER	LL5	3.71	5.3	7	

NAME	***TYPE***	***Logχ***	***mass***	***prov.***	***comments***
GURSUM	H4	5.09	2.33	3	
HAINAUT	H3-6	5.41	8.9	7	br
HEDJAZ	L3.7	4.85	24.19	1	br
HEDJAZ	L3.7	5.00	17.22	1	br
HEREDIA	H5	5.24	5.26	1	br
HESSLE	H5	5.29	64.21	1	C
HESSLE	H5	5.19	10.20	1	C
HESSLE	H5	5.17	127.8	7	
HOLBROOK	L6	4.49	326.80	1	C a
HOLBROOK	L6	4.72	224.30	2	
HOLBROOK	L6	4.72	77.07	1	c
HOLBROOK	L6	4.66	72.62	2	
HOLBROOK	L6	4.67	53.33	1	C
HOLBROOK	L6	4.72	49.20	1	C
HOLBROOK	L6	4.69	40.07	1	C
HOLBROOK	L6	4.38	34.33	1	C a
HOLBROOK	L6	4.65	33.51	1	C
HOLBROOK	L6	4.93	33.12	2	
HOLBROOK	L6	4.67	27.49	2	
HOLBROOK	L6	4.72	27.00	1	C
HOLBROOK	L6	4.75	21.12	1	C
HOLBROOK	L6	4.23	18.03	1	C a
HOLBROOK	L6	4.63	9.22	1	C
HOLBROOK	L6	4.67	9.03	1	C
HOLBROOK	L6	4.78	8.31	1	C
HOLBROOK	L6	4.68	7.23	1	C
HOLBROOK	L6	4.66	73.3	7	
HOLBROOK	L6	4.41	8.96	3	C
HOMESTEAD	L5	5.18	29.51	1	br c
HOMESTEAD	L5	5.05	13.88	1	br c
HONOLULU	L5	4.78	100.49	1	v c
IPIRANGA	H6	4.82	441.00	2	*>
ISSOULENE-N-AHAMAR	L6	4.79	5.41	4	v a
JACKALSFONTEIN	L6	4.70	7.7	7	
JELICA	LL6	3.52	129.04	1	br c
JELICA	LL6	3.72	12.32	1	br c
JELICA	LL6	3.45	12.5	7	
JILIN	H5	5.40	7.54	4	
JILIN	H5	5.41	59	7	
JILIN	H5	5.41	16.85	5	a
JUANCHEN	H5	5.26	20.77	4	C
JUMAPALO	L6	4.64	2.59	5	a
KABO	H4	4.95	9.29	4	x c a
KABO	H4	4.87	7.80	3	x
KARATU	LL6	3.83	9.21	5	
KENDLETON	L4	4.87	120.08	1	br c
KERILIS	H5	5.42	47.28	1	
KERNOUVE	H6	5.49	29.55	1	v
KERNOUVE	H6	5.55	5.8	7	v
KESEN	H4	5.26	67.77	2	
KESEN	H4	5.29	47.88	2	

NAME	*TYPE*	*Logχ*	*mass*	*prov.*	*comments*
KESEN	H4	5.32	114.7	7	
KIFFA	H5	5.32	0.9	7	
KIKINO	H6	5.24	9.38	2	
KILBOURN	H5	5.29	18.39	1	
KILBOURN	H5	5.26	18.15	2	
KISVARSANY	L6	4.86	24.4	7	
KLEIN WENDEN	H6	5.21	1.50	1	
KNYAHINYA	L/LL5	4.70	60.44	1	br C
KNYAHINYA	L/LL5	4.58	45.40	1	br c
KNYAHINYA	L/LL5	4.78	7.2	7	br
KRYMKA	LL3.1	4.03	29.93	4	
KUNASHAK	L6	4.93	12.60	5	v a
KUNYA URGENCH	H5	5.25	31.18	4	a
KYUSHU	L6	4.89	42.23	1	v c a
KYUSHU	L6	4.92	22.3	7	v
L'AIGLE	L6	4.77	213.30	1	br c a
L'AIGLE	L6	4.95	51.78	2	br
L'AIGLE	L6	5.36	51.55	1	br c
L'AIGLE	L6	4.48	48.37	1	br C a
L'AIGLE	L6	4.95	25.99	2	br
L'AIGLE	L6	4.94	23.92	1	br
L'AIGLE	L6	4.96	9.50	1	br C
L'AIGLE	L6	4.83	29.2	7	br
LA BECASSE	L6	4.84	10.46	1	c a
LA CRIOLLA	L6	4.75	30.24	4	C a
LA CRIOLLA	L6	4.83	12.15	4	
LABOREL	H5	5.21	178.50	1	C*>
LABOREL	H5	5.36	0.87	1	c
LABOREL	H5	4.20	28.8	7	
LANCON	H6	5.48	22.22	1	v
LANCON	H6	5.40	10.5	7	v
LANZENKIRCHEN	L4	5.04	18.9	7	
LE PRESSOIR	L6	5.53	13.20	1	c
LE PRESSOIR	L6	5.86	1.1	7	
LEEDEY	L6	4.93	22.38	1	c a
LESVES	L6	4.83	4.57	1	c
LIMERICK	H5	5.27	33.62	1	v
LIMERICK	H5	5.40	13.66	1	v c
LINUM	L6	4.78	24	7	
LISSA	L6	4.95	28.82	1	v c
LISSA	L6	4.94	20.90	1	v
LISSA	L6	4.96	4.92	6	v
LISSA	L6	4.91	0.8	7	v
LUNDSGARD	L6	4.96	17.40	1	c
LUNDSGARD	L6	4.96	29.2	7	
LUPONNAS	H3-5	3.81	3.18	1	br c
MACAU	H5	5.75	1.60	1	v a
MAINZ	L6	4.68	16.39	1	v c
MANBHOOM	LL6	3.58	3.00	1	
MANBHOOM	LL6	3.67	1.17	7	
MANGWENDI	LL6	4.16	91.50	1	br

NAME	***TYPE***	***Logχ***	***mass***	***prov.***	***comments***
MARION	L6	4.74	30.37	1	v c a
MARION	L6	5.00	49.9	7	v
MARMANDE	L5	4.95	24.88	1	
MASCOMBES	L6	4.81	3.89	1	c
MAUERKIRCHEN	L6	4.95	2.27	1	
MAUERKIRCHEN	L6	4.83	28.6	7	
MBALE	L5/6	4.99	14.85	3	
MENOW	H4	5.46	28.92	1	
MENOW	H4	5.41	45.8	7	
MERN	L6	4.86	14.33	1	v c
MEZO MADARAS	L3.7	4.87	38.62	1	br c
MEZO MADARAS	L3.7	4.79	37.30	6	br
MEZO MADARAS	L3.7	4.82	29.64	1	br C
MEZO MADARAS	L3.7	4.69	20.3	7	br
MILENA	L6	5.04	4.79	2	
MILENA	L6	4.87	92.2	7	
MISSHOF	H5	5.41	7.27	1	
MISSHOF	H5	5.39	4.2	7	
MOCS	L6	4.84	124.05	2	
MOCS	L6	4.92	101.14	1	v C
MOCS	L6	4.85	99.93	1	v C
MOCS	L6	4.87	73.81	1	v C
MOCS	L6	4.81	65.69	1	v C
MOCS	L6	4.83	54.89	1	v C
MOCS	L6	4.92	36.19	1	v C
MOCS	L6	4.87	25.40	1	v C
MOCS	L6	4.90	22.38	1	v C
MOCS	L6	4.86	495.5	7	
MODOC 1905	L6	4.66	5.62	4	v c
MOLINA	H5	5.30	4.77	1	br a
MOLINA	H5	5.53	3.74	2	
MONROE	H4	5.38	37.69	1	br
MONROE	H4	5.38	26.54	1	
MONTE MILONE	L5	4.69	8.19	1	br
MONTE MILONE	L5	4.63	2.22	2	
MONTLIVAUT	L6	4.78	4.53	1	
MONZE	L6	4.91	163.90	1	C
MONZE	L6	4.95	27	7	
MOORESFORT	H5	5.32	11.16	2	
MOORESFORT	H5	5.38	4.6	7	
MOTTA DI CONTI	H4	5.42	7.47	2	
MOUNT BROWNE	H6	5.36	25.4	7	
MOUNT TAZERZAIT	L5	4.84	16.65	3	
NADIABONDI	H5	5.26	11.73	4	
NADIABIONDI	H5	5.14	20.17	5	C a
NAMMIANTHAL	H5	5.17	29.8	7	v
NANJEMOY	H6	5.42	28.4	7	
NARAGH	H6	5.34	61.91	2	*
NERFT	L6	5.16	39.28	1	v
NERFT	L6	5.03	5.3	7	v
NERFT	L6	5.02	7.14	4	v c

NAME	***TYPE***	***Logχ***	***mass***	***prov.***	***comments***
NEW CONCORD	L6	5.01	63.17	1	v
NEW CONCORD	L6	4.96	389.5	7	v
NOVENTA VICENTINA	H4	5.43	19.98	4	
NUEVO MERCURIO	H5	5.31	3.93	4	C
NUEVO MERCURIO	H5	5.46	2.60	4	a
NUEVO MERCURIO	H5	5.41	52.4	7	
NULLES	H6	5.28	6.91	1	br a
NYIRABRANY	LL5	4.19	21.4	7	
OCHANSK	H4	5.41	41.00	2	br
OCHANSK	H4	5.35	4.73	1	br c
OCHANSK	H4	5.36	3.42	1	br
OCHANSK	H4	5.29	8.9	7	br
OESEL	L6	4.80	22.12	1	
OESEL	L6	4.76	24	7	
OHUMA	L5	4.93	7.35	4	
OLIVENZA	LL5	3.75	245.50	1	
OLIVENZA	LL5	3.59	3.97	3	
ORVINIO	H6	5.14	210.60	1	*>
ORVINIO	H6	5.16	17.08	2	
ORVINIO	H6	4.96	2.5	7	
OUED EL ADJAR	LL6	4.09	2.60	5	
OURIQUE	H4	5.23	16.11	5	br
OVAMBO	L6	4.92	39.7	7	
PACULA	L6	4.81	4.29	1	br a
PACULA	L6	4.85	22.8	7	br
PARAGOULD	LL5	4.54	5.7	7	
PARNALLEE	LL3.6	4.57	130.00	6	
PARNALLEE	LL3.6	4.46	88.33	1	
PARNALLEE	LL3.6	4.49	5.62	1	c
PARNALLEE	LL3.6	4.48	184.7	7	
PAVLOGRAD	L6	4.77	40.51	1	
PEACE RIVER	L6	4.92	4.29	4	C
PEEKSKILL	H6	5.13	31.84	1	br
PHU HONG	H4	5.35	3.95	1	v
PIPE CREEK	H6	5.46	24.98	1	
PIRGUNJE	L6	4.50	3.79	1	v
PORTALES VALLEY	H6	4.81	4.53	4	v c
PORTALES VALLEY	H6	4.91	10.94	5	v
PORTALES VALLEY	H6	5.60	31.90	5	v*>
PRIBRAM	H5	5.38	105.00	6	
PRICETOWN	L6	4.82	29.93	1	c
PULTUSK	H5	5.37	19.96	1	v br C
PULTUSK	H5	5.28	19.76	1	v br C
PULTUSK	H5	5.42	12.96	1	v br C
PULTUSK	H5	4.74	9.31	1	v br C
PULTUSK	H5	5.45	8.38	1	v br C
PULTUSK	H5	5.28	8.26	1	v br C
PULTUSK	H5	5.40	8.08	1	v br C
PULTUSK	H5	5.25	8.06	1	v br C
PULTUSK	H5	4.57	8.05	1	v br C
PULTUSK	H5	5.32	5.77	1	v br C

NAME	***TYPE***	***Logχ***	***mass***	***prov.***	***comments***
PULTUSK	H5	5.39	4.67	1	v br C
PULTUSK	H5	4.71	2.69	2	v br
PULTUSK	H5	5.31	247	7	v br
PUTINGA	L6	5.03	13.47	1	
QUENGGOUK	H4	5.34	51.28	1	
QUENGGOUK	H4	5.41	1.5	7	
RAKOVKA	L6	4.93	15.21	1	
RICHARDTON	H5	5.39	6.68	1	v c
RIO NEGRO	L4	4.79	379.00	1	C *
SAINT SEVERIN	LL6	4.11	3.12	4	
SAINT SEVERIN	LL6	3.95	6.21	5	
SALLES	H6	4.77	7.74	1	v c
SALT LAKE CITY	H5	5.15	7.04	1	br c
SARATOV	L4	4.88	89.94	1	
SAVTCHENSKOJE	LL4	4.32	14.87	1	
SCHONENBERG	L6	4.80	14.30	1	v c
SEARSMOUNT	H5	5.31	1.85	1	
SEGOWLIE	L6	4.47	12.89	1	
SERES	H4	5.45	1.3	7	
SEVRUKOVO	L5	4.89	19.73	1	
SEVRUKOVO	L5	4.99	19.3	7	
SHELBURNE	L5	4.98	67.28	1	v br c
SHELBURNE	L5	4.75	13.30	1	v br c
SIENA	LL5	4.16	5.00	2	br
SIENA	LL5	4.21	107.14	2	br *
SIENA	LL5	4.66	3.85	3	br
SINDHRI	H5	5.31	2.75	1	br
SITATHALI	H5	5.58	1.40	1	
SOKO-BANJA	LL4	4.24	83.40	6	br
SOKO-BANJA	LL4	4.29	26.94	1	br
SOKO-BANJA	LL4	4.22	9.68	1	br
SOKO-BANJA	LL4	4.18	5.2	7	br
SONGYUAN	L6	4.87	6.99	5	a
ST CAPRAIS	L6	4.95	4.50	1	
ST CHRISTOPHE	L6	4.92	38.46	1	c a
ST DENIS	L6	4.90	2.73	1	v C
ST GERMAIN	H6	5.38	27.04	1	
ST MESMIN	LL6	4.21	51.86	1	br c
ST MICHEL	L6	4.75	38.42	1	
ST MICHEL	L6	4.95	32.15	1	a
ST MICHEL	L6	4.79	20.4	7	
STALLDALEN	H5	5.35	9.99	1	br a
STALLDALEN	H5	5.45	179.5	7	br
SUIZHOU	L6	4.66	11.40	5	
SUIZHOU	L6	4.28	16.65	4	a
SUPUHEE	H6	5.02	276.10	1	br C *>
TABOR	H5	4.83	57.70	2	br
TABOR	H5	5.25	6.19	1	br a
TABOR	H5	5.25	14.6	7	br
TADJERA	L5	5.00	31.15	1	c
TAKENOUCHI	H6	5.45	5.10	2	

NAME	***TYPE***	***Logχ***	***mass***	***prov.***	***comments***
TENHAM	L6	4.77	22.4	7	v
TENHAM	L6	4.64	20.66	3	v
TENHAM	L6	4.75	20.62	1	v a
TENNASILM	L4	4.83	56.80	1	v c
TENNASILM	L4	4.82	697.8	7	v
TESSERA	H4	5.29	6.33	5	C a
TIESCHITZ	H/L3.6	4.82	40.70	6	
TIESCHITZ	H/L3.6	5.06	17.38	2	
TIESCHITZ	H/L3.6	5.03	23.9	7	
TIMOCHIN	H5	5.44	26.82	1	
TIMOCHIN	H5	4.77	18.3	7	
TJABE	H6	5.53	24.54	2	
TORINO	H6	5.40	106.97	1	c *
TORINO	H6	5.40	93.29	1	c *
TOULOUSE	H6	5.29	34.42	1	v c
TOULOUSE	H6	5.34	13.21	1	v c
TOURINNES	L6	5.01	45.14	1	v
TOURINNES	L6	4.87	5	7	v
TRENZANO	H6	5.59	11.60	1	v c a
TRENZANO	H6	5.39	3.86	1	v c
TRENZANO	H6	5.34	17.4	7	v
TUXTUAC	LL5	4.11	8.68	3	
TUXTUAC	LL5	4.11	1.3	7	
TYSNES ISLAND	H4	5.24	11.51	1	br
UBERABA	H5	5.31	24.72	1	a c
UBERABA	H5	5.28	5.8	7	
UTRECHT	L6	5.19	22.32	2	v
UTRECHT	L6	4.91	4.50	1	v
VALERA	L5	4.81	8.47	5	
VAVILOVKA	LL6	3.66	26.50	1	c
VAVILOVKA	LL6	3.58	16.8	7	
VERA	L/LL4	4.74	2.42	1	
VERA	L/LL4	4.72	2.8	7	
VERNON COUNTY	H6	5.51	25.8	7	v
VIRBA	L6	4.88	2.42	1	v
VOUILLE	L6	5.00	122.90	1	v c
VOUILLE	L6	5.52	17.06	1	v
VOUILLE	L6	5.01	40.1	7	v
VOUILLE	L6	5.10	6.90	4	v
WESTON	H4	5.23	14.85	1	
WESTON	H4	5.21	5.00	6	
WOOLGORONG	L6	4.72	2.00	3	
WOOLGORONG	L6	4.77	5.72	4	c
YATOOR	H5	5.40	2.30	1	
ZABORZIKA	L6	5.35	3.52	1	v
ZAG	H3-6	5.24	27.39	4	br
ZAVID	L6	5.05	68.63	1	br
ZAVID	L6	4.98	178	7	br
ZEMAITKIEMIS	L6	4.84	9.6	7	

Table 2. Magnetic susceptibility of ordinary chondrites (H,L, LL), Antarctic finds. See table 1 caption. Provenance is Siena, except the Y samples from Espoo.

NAME	*TYPE*	*Logχ*	*mass*
ALH99101	L/LL3	4.36	120.00
FRO 90001	H6	5.08	52.30
FRO 90002	H5-6	5.11	8.90
FRO 90005	H4	5.11	8.30
FRO 90006	L/LL3	4.63	17.1
FRO 90009	L7	4.69	4.20
FRO 90010	H5	5.24	5.09
FRO 90014	H6	5.21	6.11
FRO 90015	H4-5	5.16	7.86
FRO 90016	H6	5.06	3.54
FRO 90018	H4	4.89	3.54
FRO 90022	H4	4.99	8.35
FRO 90024	H5	4.78	7.95
FRO 90025	H6	5.15	8.65
FRO 90026	H5	5.25	5.15
FRO 90027	H3	4.94	4.68
FRO 90028	L3	4.17	10.55
FRO 90029	H4	5.44	6.90
FRO 90031	H4	5.03	7.63
FRO 90032	H3	4.97	4.00
FRO 90033	H6	5.07	7.30
FRO 90034	L7	4.79	5.24
FRO 90035	LL4	4.32	52.66
FRO 90037	H5	5.17	9.15
FRO 90038	H4	5.27	2.99
FRO 90039	L4	4.79	8.27
FRO 90040	H5	5.28	4.95
FRO 90041	H6	5.11	4.70
FRO 90042	LL4	4.44	8.44
FRO 90043	H6	5.12	11.40
FRO 90044	L5	4.80	5.44
FRO 90045	L4	4.43	13.05
FRO 90046	H6	5.08	6.99
FRO 90047	L4	4.71	13.00
FRO 90048	H6	5.19	9.52
FRO 90049	H5-6	5.21	5.86
FRO 90050	H5	5.16	8.72
FRO 90051	H6	5.20	6.75
FRO 90052	L4	4.50	21.66
FRO 90053	H5	5.13	7.62
FRO 90055	H6	5.27	3.34
FRO 90056	L6	4.83	9.19
FRO 90057	H6	5.12	3.68
FRO 90058	L7	4.70	13.39
FRO 90059	H5	5.30	4.94
FRO 90061	H6	5.25	6.59
FRO 90062	L7	4.82	5.83
FRO 90064	H6	5.31	3.26

NAME	***TYPE***	***Logχ***	***mass***
FRO 90066	L7	4.76	7.50
FRO 90067	H6	5.12	8.16
FRO 90068	H6	5.51	4.60
FRO 90069	H6	5.18	6.51
FRO 90070	L4	4.36	22.60
FRO 90072	H5	5.35	3.44
FRO 90073	H6	5.02	8.35
FRO 90074	H6	5.09	7.22
FRO 90075	H5	5.36	9.23
FRO 90076	H4-5	5.24	6.67
FRO 90078	H5	5.26	7.65
FRO 90082	H5	4.90	7.76
FRO 90085	H5	5.44	7.26
FRO 90086	L6	4.92	4.45
FRO 90087	H5	5.14	4.66
FRO 90089	L7	4.55	3.78
FRO 90091	H5	5.22	8.03
FRO 90092	H4	5.02	3.17
FRO 90093	H6	4.93	3.53
FRO 90094	H5	5.28	7.83
FRO 90095	H4	5.20	3.40
FRO 90096	H6	4.70	5.68
FRO 90098	H4	5.21	4.97
FRO 90099	H4	4.97	3.21
FRO 90104	H6	5.26	5.67
FRO 90107	H5	4.95	6.70
FRO 90109	H6	5.25	9.40
FRO 90110	H6	5.03	6.05
FRO 90115	H4-5	5.09	8.23
FRO 90116	H4	5.30	4.05
FRO 90124	H6	5.24	4.95
FRO 90127	H3/4	4.97	10.03
FRO 90128	H5	5.20	6.07
FRO 90130	H3-5 br	5.22	6.50
FRO 90131	H4 br	4.94	6.02
FRO 90132	H5	5.32	5.82
FRO 90135	LL4	4.30	10.96
FRO 90138	H6	5.36	4.31
FRO 90142	L3	4.41	3.05
FRO 90143	H6/7	5.13	7.74
FRO 90144	H6	5.11	4.42
FRO 90145	LL4	4.52	5.63
FRO 90148	H5	5.32	9.60
FRO 90149	H4	5.54	11.34
FRO 90150	H6	5.09	6.83
FRO 90151	H5	5.36	24.70
FRO 90152	H5	4.96	2.70
FRO 90153	H4-6 br	5.23	7.94
FRO 90155	L6	4.94	53.44
FRO 90156	H6	5.19	22.96
FRO 90158	H4-5 br	5.20	5.00

NAME	***TYPE***	***Logχ***	***mass***
FRO 90159	H4	5.10	5.90
FRO 90160	L4	4.36	20.15
FRO 90161	L6	4.96	4.50
FRO 90162	L6	4.73	12.09
FRO 90163	L4-6 br	4.63	14.58
FRO 90164	L4	4.67	63.10
FRO 90166	H6	5.15	17.70
FRO 90167	H4	5.12	4.10
FRO 90171	H5	5.13	8.79
FRO 90172	L5	4.35	32.93
FRO 90173	H4	4.97	3.20
FRO 90174	H5	5.21	6.86
FRO 90175	H4	5.03	6.70
FRO 90178	L6	4.93	3.42
FRO 90180	H4	5.10	5.80
FRO 90182	H4-6 br	5.16	8.31
FRO 90183	H4	4.99	4.89
FRO 90185	H5	5.29	3.94
FRO 90190	H5	5.40	3.61
FRO 90192	H6	5.12	34.10
FRO 90202	H3	4.94	7.69
FRO 90203	H6	5.10	5.98
FRO 90204	H6	4.89	7.57
FRO 90205	H3-6 br	4.97	3.13
FRO 90215	L6	4.81	5.23
FRO 90219	L6/7	4.71	3.87
FRO 90221	H6	5.61	3.00
FRO 90225	H4	5.05	7.02
FRO 90226	H5/6	5.30	7.00
FRO 90229	H4/5	5.21	4.02
FRO 90231	L5	4.57	14.12
FRO 90234	L6	4.90	3.23
FRO 90235	L6/7	4.45	16.10
FRO 90238	H5	4.79	8.60
FRO 90239	H6	5.26	10.80
FRO 93002	H6	4.98	9.70
FRO 93003	L6	4.88	26.80
FRO 93005	L5	5.03	54.10
FRO 93006	H5/6	5.30	58.60
FRO 93009	L4	4.82	95.50
FRO 93012	L5	5.26	17.80
FRO 93013	H6	5.30	5.50
FRO 93014	H5	4.90	6.30
FRO 93017	H5	5.05	7.90
FRO 93020	L5	4.29	63.90
FRO 93024	H5	4.98	8.10
FRO 93026	H5	4.95	15.03
FRO 93028	H4	4.80	5.80
FRO 93030	H4 br	4.94	6.20
FRO 93031	H5 br	5.21	5.30
FRO 93032	H5 br	5.12	14.80

NAME	***TYPE***	***Logχ***	***mass***
FRO 93035	L4	4.38	14.40
FRO 93036	H4	4.90	5.90
FRO 93040	H5	5.05	7.40
FRO 93043	L6	4.31	7.80
FRO 93048	H4	4.98	6.80
FRO 93049	H3	4.80	5.40
FRO 93051	H6	5.21	12.90
FRO 95004	H6	5.08	5.90
FRO 95005	L6	4.93	162.40
FRO 95006	H6	5.07	106.30
FRO 95007	H4	4.82	3.54
FRO 95010	H6	5.09	79.70
FRO 95012	H6	5.07	38.92
FRO 95018	H5	5.06	11.27
FRO 95019	H5	5.11	8.94
FRO 95024	H4	5.25	3.00
FRO 95030	H5	5.23	11.17
FRO 95032	H4 br	4.89	15.72
FRO 95033	H5	5.05	22.00
FRO 95036	H3	5.17	17.06
FRO 95040	H5	5.18	4.40
FRO 95041	H6	5.06	8.87
FRO 95042	H5	5.29	12.00
FRO 95043	L6	4.64	3.95
FRO 95044	H6	5.14	6.90
FRO 95045	H6	5.09	3.27
FRO 95046	H6	5.17	9.61
FRO 97001	L5	4.85	4.70
FRO 97004	L6	4.44	5.00
FRO 97008	H4/5	5.08	14.80
FRO 97010	L4	4.13	22.90
FRO 97016	H6	5.09	4.90
FRO 97020	H6	4.96	5.90
FRO 97024	H4/5	5.20	15.80
FRO 97025	H5	5.21	27.40
FRO 97027	H6	5.20	19.40
FRO 97028	H5	5.19	15.40
FRO 97029	H5	5.27	25.70
FRO 97030	L6	4.78	60.10
FRO 97032	H6	5.25	12.65
FRO 97033	H4/5	5.23	28.45
FRO 97034	L6	5.13	3.60
FRO 97035	H5	5.17	4.80
FRO 97044	H4	4.91	8.80
FRO 97046	H6	5.03	3.30
FRO 97051	H4	5.02	6.40
FRO 97052	L5	4.76	12.30
FRO 97053	H5	5.22	10.70
FRO 97055	H5	5.17	9.00
FRO 97058	H4	4.92	8.70
FRO 97059	H4	4.98	3.40

NAME	***TYPE***	***Logχ***	***mass***
FRO 97060	H4	4.91	6.00
FRO 97061	H4	5.01	3.90
FRO 97062	H5	4.99	4.90
FRO 97063	H4/5	5.34	3.10
FRO 97065	H6	4.61	4.60
FRO 99001	L6 br	4.75	220.50
FRO 99005	H5	4.91	3.00
FRO 99007	H3	4.98	12.90
FRO 99009	L6	4.75	6.20
FRO 99010	H5/6	5.37	3.49
FRO 99011	H6	5.11	8.30
FRO 99013	H4	5.01	10.00
FRO 99014	H4	4.97	13.30
FRO 99015	H4	4.85	4.30
FRO 99016	L5	4.64	23.20
FRO 99018	H4	4.87	9.50
FRO 99019	H3/4	5.05	7.50
FRO 99021	H4	5.42	20.30
FRO 99026	H3	4.87	3.10
FRO 99027	L4	4.37	8.00
FRO 99028	L6	4.90	2.72
FRO 99029	H5	5.45	7.50
FRO 99031	L3	4.81	197.20
FRO 99035	H3/4	4.93	3.00
FRO 99036	H3/4	4.98	5.80
FRO 99037	H4	5.04	19.00
FRO 99039	H6	5.31	3.50
Y 790448	LL3	4.10	2.42
Y 791428	H3	4.91	2.86
Y 791500	H3-4	5.20	0.67
Y 8410	L5	4.67	3.14

Table 3. Magnetic susceptibility of ordinary chondrites (H, L, LL), non-Antarctic finds.

NAME	*TYPE*	*Logχ*	*mass*	*prov.*
ACFER 024	H5	5.04	4.61	7
ACFER 025	H5	5.15	4.44	7
ACFER 046	H5	4.59	4.51	7
ACFER 048	H4-5	4.99	2.46	7
ACFER 061	H4-5	5.37	1.39	7
ACFER 065	H4-5	5.18	1.9	7
ACFER 067	H5	4.98	1.44	7
ACFER 073	H5	4.66	3.58	7
ACFER 098	H5	5.06	4.03	7
ACFER 275	H5-6	5.05	1.8	7
ACFER 308	H5	5.34	2.05	7
ACME	H5	4.61	42.5	7
ADRIAN	H4	4.81	13.4	7
ALAMOGORDO	H5	5.10	81.3	7
ARCADIA	LL6	3.73	40.5	7
ARRIBA	L5	4.71	284.6	7
BARRATTA	L3.8	5.02	133.00	6
BARRATTA	L3.8	5.11	88.14	1
BARRATTA	L3.8	4.93	265	7
BEANHAM	L5	4.78	12.34	1
BEANHAM	L5	4.77	68.4	7
BEAVER	L5	4.70	82.4	7
BLUFF	L5	4.82	57.14	1
BLUFF	L5	4.83	61.70	1
BLUFF	L5	4.90	42.4	7
BREWSTER	L6	4.27	6.1	7
BURDETT	H5	5.14	17.93	1
CALLIHAM	L6	4.40	12.39	1
CALLIHAM	L6	4.35	2.6	7
CHAMBERLAIN	H5	4.62	104.4	7
CLAYTONVILLE	L5	4.54	18.99	1
CLOVIS	H3.6	4.80	32.97	1
CLOVIS	H3.6	4.63	76.9	7
COBIJA	H6	5.35	7.43	1
COBIJA	H6	5.11	25.5	7
COLBY (KANSA)	H5	4.83	11.3	7
COLDWATER	H5	4.90	3.6	7
COON BUTTE	L6	4.78	8.02	1
COPE	H5	4.87	50.4	7
COVERT	H5	4.38	34.4	7
DaG 313	L/LL3	4.08	11.70	3
DaG 315	H3-5 br	5.23	19.30	3
DaG 318	H3	4.79	22.20	3
DaG 483	L6	4.32	11.20	3
DaG 484	H6	4.71	24.80	3
DaG 486	H4/5	5.11	9.70	3
DaG 488	L6	4.20	76.30	3
DaG 490	H5-6 br	4.68	37.70	3
DaG 493	H4	5.32	9.60	3
DaG 495	L6	4.62	4.80	3

NAME	***TYPE***	***Logχ***	***mass***	***prov.***
DaG 496	LL6 br	3.50	77.60	3
DaG 497	H5	4.52	27.30	3
DaG 498	LL5-6br	3.63	19.90	3
DaG 499	H4/5	4.54	6.30	3
DaG 500	H4/5	4.60	38.80	3
DaG 501	L5	4.80	20.70	3
DaG 502	L6	4.34	26.10	3
DaG 503	L6	4.37	36.40	3
DaG 505	L6	4.19	12.90	3
DaG 506	L6	4.41	7.30	3
DaG 507	L6	4.51	19.40	3
DaG 508	H4	4.84	3.90	3
DaG 509	H4	4.97	4.80	3
DaG 510	L4	4.68	4.60	3
DaG 511	H5	4.61	9.60	3
DaG 512	H5/6	4.46	8.90	3
DaG 513	H4	4.59	11.10	3
DaG 514	H4-6 br	4.44	6.90	3
DaG 515	H5 br	5.21	41.30	3
DaG 516	H6	4.67	6.80	3
DaG 517	H6	4.59	37.10	3
DaG 518	H6	4.51	7.11	3
DaG 519	H4	4.68	22.50	3
DaG 520	H5-6 br	4.60	8.40	3
DaG 522	L6	4.51	6.50	3
DaG 523	L4/5	4.78	29.40	3
DaG 524	H5-6 br	5.01	17.10	3
DaG 525	H5-6 br	4.96	11.00	3
DaG 528	L6	4.25	4.50	3
DaG 529	L6	4.02	8.70	3
DaG 530	L6	4.10	9.50	3
DaG 531	L6	4.26	5.40	3
DaG 532	L6	4.42	9.80	3
DaG 536	H6	4.61	10.30	3
DaG 537	L6	4.25	11.30	3
DaG 543	L6	4.08	14.60	3
DaG 544	H5	4.70	42.10	3
DaG 545	H4	4.42	12.20	3
DaG 546	L6	4.31	3.80	3
DaG 548	H6 br	5.31	9.50	3
DaG 551	L6	4.49	56.50	3
DaG 552	H5	5.14	6.30	3
DaG 553	L6	4.36	7.34	3
DaG 554	L6	4.09	6.10	3
DaG 556	H6	4.46	10.90	3
DaG 575	H5	5.25	12.14	5
DaG 611	L6	4.43	12.35	3
DaG 612	H5	4.67	20.10	3
DaG 613	LL4	3.70	31.15	3
DaG 614	H6	4.61	6.96	3
DaG 615	H6 br	3.76	9.60	3

NAME	***TYPE***	***Logχ***	***mass***	***prov.***
DaG 616	L6	3.93	7.60	3
DaG 618	L6	4.45	3.80	3
DaG 619	L6	4.18	27.80	3
DaG 620	L6	4.62	7.30	3
DaG 621	L4	4.82	7.78	3
DaG 622	H5	4.65	4.70	3
DaG 624	L6	4.57	8.30	3
DaG 625	L6	4.17	8.71	3
DaG 626	H4	5.26	7.50	3
DaG 627	H5	4.89	6.50	3
DaG 629	H5	4.78	15.90	3
DaG 630	H4	4.48	5.90	3
DaG 631	H4	4.55	3.00	3
DaG 653	H5	4.51	14.35	4
DaG 662	H6	5.04	6.10	3
DAGELTY DOWNS	L4	4.71	148.9	7
DE NOVA	L6	4.64	5.6	7
DENSMORE	L6	4.19	21.58	1
DIMMIT	H3/4	4.88	112.72	1
EL HAMAMI	H5	5.55	32.00	3
ELLA ISLAND	L6	4.76	29.8	7
ELM CREEK	H4	5.03	52.40	1
ESTACADO	H6	5.54	13.75	1
ETTER	H6	4.79	23.96	1
ETTER	H6	4.72	32.72	1
FARLEY	H5	4.61	131.8	7
FERGUSON SWITCH	H5	4.97	72.7	7
FLEMING	H3	4.88	222.7	7
GARRAF	L6	4.48	8.40	1
GARRAF	L6	4.69	17.74	1
GHUBARA	L5	4.86	31.27	5
GILGOIN	H5	4.91	3.54	1
GILGOIN	H5	5.25	0.4	7
GLADSTONE	H4	4.93	63.5	7
GOLD BASIN	L4	4.97	22.51	1
GOLD BASIN	L4	4.97	22.53	1
GOODLAND	L4	4.91	7	7
GRADY	H3	5.15	6.6	7
GRASSLAND	L4	4.15	2.8	7
GRETNA	L5	4.61	144.92	1
GRUVER	H4	4.93	11.31	1
GRUVER	H4	5.05	4.5	7
HaH 239	H5	4.84	16.40	3
HaH 240	L4	4.18	279.00	3
HaH 241	L6 br	4.07	149.40	3
HAMILTON	L6	4.86	186.1	7
HARRISONVILLE	L6	4.68	40.8	7
HAT CREEK	H4	5.31	26.8	7
HOWE	H5	4.98	27.6	7
HUGOTON	H5	4.58	75.8	7
INDIO RICO	H6	5.13	1.10	1

NAME	*TYPE*	*Logχ*	*mass*	*prov.*
JABAL AKAKUS	LL6	3.72	11.30	3
JULESBURG	L3.6	4.95	55.85	1
KERMICHEL	L6	4.08	61.14	1
KERMICHEL	L6	4.06	5.7	7
KRAMER CREEK	L4	4.16	21.2	7
LA LANDE	L5	4.46	6.71	1
LA LANDE	L5	4.56	77.3	7
LADDER CREEK	L6	4.34	17.80	2
LADDER CREEK	L6	4.25	41.1	7
LAKE LABYRINTH	LL6	4.13	402.6	7
LAKETON	L6	4.59	97.5	7
LAKEWOOD	L6	4.50	26.71	1
LIDO DE VENEZIA	L4/5	4.95	47.29	5
LONG ISLAND	L6	4.32	41.11	1
LONG ISLAND	L6	4.10	76.62	1
LONG ISLAND	L6	4.18	26.9	7
MARSLAND	H5	5.24	2	7
MAYFIELD	H4	5.01	19.13	1
MCKINNEY	L4	4.69	35.28	1
MCKINNEY	L4	4.75	95.35	1
MCKINNEY	L4	4.87	282	7
METSAKYLA	H4	4.58	252.6	7
MILLS	H6	4.74	7.8	7
MINAS GERAIS	L6	4.81	2.94	1
MORLAND	H6	5.32	197.2	7
NASHVILLE	L6	4.81	40.9	7
NEENACH	L6	4.74	27.5	7
NESS COUNTY	L6	4.21	31.47	1
NESS COUNTY	L6	4.08	118.00	1
NESS COUNTY	L6	4.30	684.6	7
NORCATEUR	L6	4.33	19.7	7
ORIMATTILA	H4	5.15	46.3	7
OTIS	L6	4.19	7.3	7
OUBARI	LL6	4.03	41.8	7
OVID	H6	4.85	29.4	7
PIPE CREEK	H6	5.53	2.2	7
PLAINVIEW1917	H5	5.12	682.7	7
POTTER	L6	4.01	122.8	7
PRAIRIE DOG	H3.8	4.68	1.50	1
QUINCAY	L6	4.74	29.17	1
RANSOM	H4	5.27	79.7	7
REGGANE 003	H4	4.86	24.36	3
ROY	L5	4.20	11.23	1
ROY	L5	4.21	9.7	7
RUSH CREEK	L6	4.83	223.1	7
SALINE	H5	5.34	30.53	1
SALINE	H5	5.29	128.7	7
SALLA	L6	4.69	557.3	7
SAN CARLOS	H4	4.73	3.81	1
SAN CARLOS	H4	5.06	2.5	7
SELMA	H4	4.73	2.9	7

NAME	***TYPE***	***Logχ***	***mass***	***prov.***
SENECA	H4	4.94	20	7
SMITH CENTER	L6	4.45	10.1	7
SPRINGFIELD	L6	4.64	25.1	7
STONINGTON	H5	5.07	29.1	7
TAIBAN	L5	4.77	48.6	7
TEXLINE	H5	5.20	15.7	7
TOMHANNOCK	H5	5.18	15.54	1
TRAVIS COUNTY	H5	5.08	13	7
TRYON	L6	4.17	36	7
TULIA(A)	H3/4	4.94	10.7	7
UTE CREEK	H4	4.73	8.7	7
VAIRPAISJARVI	L6	4.91	2.8	7
VALKEALA	L6	4.45	135.6	7
WACONDA	L6	4.89	27.10	1
WACONDA	L6	4.76	124.87	1
WACONDA	L6	4.68	27.5	7
WAIRARAPA	H5	4.45	1.45	1
WELLMAN(A)	H5	5.27	16.3	7
WILMOT	H6	4.84	8.4	7

Table 4. Magnetic susceptibility of enstatite and carbonaceous chondrites. Finds correspond to name in italics.

NAME	***TYPE***	***Logχ***	***mass***	***prov.***
ABEE	EH	5.57	18.2	7
ALAIS	CI	4.49	1.40	1
ALAIS	CI	4.14	1.15	1
ALLENDE	CV3.2	3.56	447	7
ALLENDE	CV3.2	3.57	5.11	1
ALLENDE	CV3.2	3.57	5.00	1
ALLENDE	CV3.2	3.57	167.23	1
COLD BOKKEVELD	CM2	3.94	0.60	1
COLD BOKKEVELD	CM2	3.68	1.00	1
COLD BOKKEVELD	CM2	3.60	3.7	7
DaG 521	CV3	4.46	66.23	3
DaG 526	CV3	4.56	3.15	3
DaG 533	CV3	4.47	16.20	3
DaG 535	CV3	4.53	3.70	3
DaG 628	CO3	4.24	3.20	3
DANIEL'S KUIL	EL6	3.43	5.60	1
EAGLE	EL6	5.42	5.31	3
FELIX	CO3	4.52	71.3	7
FRO 95002	CO3 br	4.68	59.10	3
FRO 99040	CO3	4.58	70.30	3
GROSNAJA	CV3.3	4.00	4.8	7
GROSNAJA	CV3.3	3.93	37.11	2
GROSNAJA	CV3.3	3.96	11.03	1
HaH 237	CH	5.31	8.56	1
HVITTIS	EL6	5.43	50.72	1*
HVITTIS	EL6	5.56	21.7	7
INDARCH	EH4	5.37	40.00	6
INDARCH	EH4	5.19	2.34	1
KABA	CV3	4.85	4.11	6
KAINSAZ	CO3.1	4.68	5.29	3
LANCE	CO3.4	4.47	0.6	7
LANCE	CO3.4	4.42	93.46	2
LANCE	CO3.4	4.35	7.58	1
MIGHEI	CM2	3.42	1.4	7
MIGHEI	CM2	3.40	13.43	2
MIGHEI	CM2	3.53	84.20	6
MIGHEI	CM2	3.53	1.50	1
MIGHEI	CM2	4.04	1.80	1
MURCHINSON	CM2	4.32	5.24	2
MURCHINSON	CM2	3.86	1.96	3
MURRAY	CM2	1.45	3.11	1
NOGOYA	CM2	3.91	2.23	1
NWA 002	EL6	4.50	6.91	5
ORGUEIL	CI1	4.78	11.6	7
ORGUEIL	CI1	4.73	2.73	6
ORGUEIL	CI1	4.86	47.20	1
ORNANS	CO3.3	4.33	13.4	7
ORNANS	CO3.3	4.29	25.26	1
PILLISFER	EL6	5.59	11	7
PILLISFER	EL6	5.34	123.00	6

NAME	***TYPE***	***Logχ***	***mass***	***prov.***
PILLISFER	EL6	5.43	7.22	1
RENAZZO	CR2	5.45	37.97	2
RENAZZO	CR2	5.10	12.15	1
SAHARA 97162	EH3	5.43	14.55	5
VIGARANO	CV3.3	4.27	56	7
VIGARANO	CV3.3	4.39	20.89	1
WARRENTON	CO3.6	4.47	59.7	7
WARRENTON	CO3.6	4.46	10.80	1

Table 5. Magnetic susceptibility of achondrites. Finds correspond to name in italics.

NAME	***TYPE***	***Logχ***	***mass***	***prov.***
ANGRA DOS REIS	ANG	2.80	0.62	1
BILANGA	DIO	2.73	4.22	5
BISHOPVILLE	AUB	3.78	31.8	7
BISHOPVILLE	AUB	3.28	9.38	2
BISHOPVILLE	AUB	3.04	4.30	1
CACHARI	EUC	2.64	1.59	3
CAMEL DONGA	EUC	4.18	0.74	3
CHASSIGNY	SNC	2.16	0.4	7
CHASSIGNY	SNC	2.98	15.66	1
CUMBERLAND FALLS	AUB	4.11	112	7
CUMBERLAND FALLS	AUB	3.93	23.14	1
DaG 411	EUC	2.98	19.32	1
DaG 476	SNC	2.90	19.17	1
DaG 485	URE	4.75	17.40	3
DaG489b	SNC	2.84	40.00	3
DaG 494	URE	4.23	3.60	3
DaG 660	URE	4.48	4.53	3
DaG 669	HOW	3.05	20.30	3
DaG 669	HOW	3.43	9.00	3
DaG 692	URE	5.32	43.00	3
DaG 684	EUC	2.59	121.30	3
EETA79001	SNC	2.80	2.45	7
FRO 90036	URE	3.97	4.33	3
FRO 90054	URE	4.08	5.95	3
FRO 90168	URE	4.25	6.47	3
FRO 90228	URE	3.98	9.60	3
FRO 90233	URE	3.76	8.85	3
FRO 93008	URE	3.95	7.56	3
FRO 95028	URE	3.48	11.68	3
FRO 97013	URE	4.08	20.10	3
FRO 97045	EUC br	2.73	4.03	3
HAVERO	URE	5.11	11.8	7
JOHNSTON	DIO	3.66	89.8	7
JOHNSTON	DIO	3.33	6.27	2
JOHNSTON	DIO	3.76	0.39	3
JONZAC	EUC	2.77	5.4	7
JONZAC	EUC	2.64	31.60	1
JUVINAS	EUC	2.85	26.8	7
JUVINAS	EUC	2.89	70.38	1
JUVINAS	EUC	3.04	210.80	1
KAPOETA	HOW	3.61	3.1	7
KHOR THEMIKI	AUB	2.47	2.31	4
LOS ANGELES	SNC	3.41	3.60	1
LUOTOLAX	HOW	3.25	3.4	7
MEDANITOS	EUC	2.49	6.11	1
MILLBILLILLIE	EUC	2.67	25.34	4
MILLBILLILLIE	EUC	2.62	13.26	3
NAKHLA	SNC	3.21	23.70	6
NAKHLA	SNC	3.10	152.32	1

NAME	***TYPE***	***Logχ***	***mass***	***prov.***
NORTON COUNTY	AUB	3.18	2.95	4
NORTON COUNTY	AUB	3.82	293	7
NOVO UREI	URE	4.79	6.76	7
NOVO UREI	URE	4.77	6.06	2
NOVO UREI	URE	4.93	16.90	6
NOVO UREI	URE	5.04	1.90	1
PADVARNINKAI	EUC	2.88	86.90	6
PADVARNINKAI	EUC	3.27	2.2	7
PASAMONTE	EUC	3.00	73.1	7
PENA BLANCA	AUB	3.24	4.42	4
PENA BLANCA	AUB	2.27	4.20	4
PENA BLANCA	AUB	2.93	30.57	1
PETERSBURG	HOW	4.82	4.80	2
PETERSBURG	HOW	4.26	1.25	1
RODA	DIO	3.00	7.61	1
SAU 005	SNC	2.86	19.50	1
SHAKLA	DIO	2.49	4.5	7
SHAKLA	DIO	2.92	31.00	6
SHAKLA	DIO	2.99	18.32	1
SHALLOWATER	AUB	4.87	13.2	7
SIOUX COUNTY	EUC	2.90	35.7	7
STANNERN	EUC	2.73	40.60	6
STANNERN	EUC	2.60	26.9	7
STANNERN	EUC	2.65	18.30	1
STANNERN	EUC	2.66	14.83	1
TATAHOUINE	DIO	3.71	11.2	7
TATAHOUINE	DIO	3.05	4.30	3
ZAGAMI	SNC	2.60	44	7

Table 6. anisotropy effects on magnetic susceptibility. Modeled cases A and B correspond to a prolate ellipsoid of axial ratio 2 and an oblate cylinder of axial ratio 5, respectively, with an intrinsic susceptibility K_i indicated. This K_i and tabulated N factors are used to compute apparent susceptibilities: $\log\chi$ (in 10^{-9} m^3/kg) for a sphere of density 3.53, maximum and minimum susceptibility normalize to the sphere value, with their logarithm within brackets. Measurements on two cut pieces of DaG575 are also shown.* corresponds to data from *Morden and Collinson* [1992], with the mean and extreme cases reported.

	log χ_m	***Kmax***	***Kmin***
A Ki=0.4	5.00	1.06 (0.02)	0.97 (-0.01)
B Ki=0.4	5.00	1.06 (0.02)	0.89 (-0.05)
A Ki=0.8	5.25	1.11 (0.05)	0.89 (-0.02)
B Ki=0.8	5.25	1.12 (0.05)	0.82 (-0.09)
A Ki=1.5	5.45	1.19 (0.08)	0.93 (-0.03)
B Ki=1.5	5.45	1.21 (0.08)	0.74 (-0.13)
DaG 575 cube (H5)	5.29	1.15 (0.06)	0.77 (-0.11)
DaG 575 plate (H5)	5.20	1.21 (0.08)	0.67 (-0.17)
L-LL mean*		1.17 (0.07)	0.79 (-0.10)
Tuxtuac (LL5)*		1.06 (0.02)	0.94 (-0.03)
Wold Cottage(L6)*		1.27 (0.10)	0.75 (-0.12)

Table 7. Mean and standard deviations of $\log\chi$ observed in LL, L and H groups separated between falls, Antarctic and non Antarctic finds. Sample number in brackets.

Group	***LL***	***L***	***H***
Falls	4.06 ± 0.28 (23)	4.87 ± 0.18 (110)	5.29 ± 0.21 (104)
Antarctic	4.34 ± 0.16 (5)	4.68 ± 0.25 (52)	5.12 ± 0.17 (173)
Non Antarctic	3.79 ± 0.24 (6)	4.47 ± 0.28 (80)	4.89 ± 0.31 (105)

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