CLASSIFICATION OF SOME METEORITES FROM TUNISIA AND MOROCCO : ON THE WAY TO ESTIMATE THE FLUX OF METEORITES IN SAHARA.

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Introduction: Estimation of flux of meteorites to the Earth has great importance in Meteoritics to understand the history of our planet. This estimation can be performed in large desert area where many meteorites has been accumulated during the time e.g. deserts of Oman, Lybie, Chili and NWA. Great numbers of meteorites have been recovered from these areas espacially from North African deserts, including Morocco (>8000) [1, 2].
Meteorites from hot deserts survive shorter time spans than meteorites from Antarctica [3] and can therefore be dated by using cosmogenic ^{14}C, that was produced in situ [3].
If a large population from an accumulation area is dated, calculation of meteorite flux is possible [4]. Following previous estimation of meteorite flux based on the desert of Chili performed in CEREGE [5] and the desert of Oman by Swiss team [6], we start classifications of three new meteorites from Tunisia « Ksar Mehiri », and many Moroccan meteorites that are in progress. The flux of meteorites in Morocco and North West Africa will be estimated by measuring the terrestrial age of these meteorites and other ones from the same geographic area.

Methodology : The current classification is based on magnetic properties, especially magnetic susceptibility (χ) which is performed in CEREGE [7], being a non-destructive and rapid technique to quantify fully the modal composition of meteorites [7], and Microprobe analyses for some of them. Dating of seven iron meteorites from the Sahara using isotopes of ^{36}Cl, ^{41}Ca, ^{26}Al, ^{10}Be are also in progress.

Conclusion : To obtain an estimate of flux of meteorites for Morocco and Tunisia, we will calculate the density of paired meteorites over a given mass per unit area. For Tunisia, we will work with DCA of : Bir Zar, Tieret, Ksar Mehiri, Ksar Ghilane, Ksar Tarcine, Metameur ; and for Morocco : Bou Kra and a new DCAs [8].

References:

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