Title of Grant: Carbonaceous Chondrites: Early Irradiation and $^{244}\text{Pu}$ Fission Records

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Oceanography, La Jolla) 8 p.

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Final Report

The focus of investigations throughout this work has been the carbonaceous meteorites. The studies which have been conducted have evolved from investigations of early irradiation to mineralogic and petrologic studies of refractory inclusions and to an examination of the time scales of alteration processes on the parent bodies. Much has been learned, and many new questions have been posed. The attached papers and abstracts provide the details. These studies are now continuing under NASA grant NAG9-49.
List of Abstracts under NASA Grant NSG7121

1975


Late compaction of C2 chondrites? B.K. Kothari and J.D. Macdougall, Meteoritics 10, 428.

Pre-compaction irradiation of mafic silicates in Cl and C2 chondrites. J.D. Macdougall, Meteoritics 10, 449.


1976

Particle track and microcrater records in lunar samples and meteorites. J.N. Goswami, I.D. Hutcheon and J.D. Macdougall, 7th Lunar and Planetary Science Conf., 325.

Particle track distributions in Murchison (C2) inclusions. J.D. Macdougall, Meteoritics 11, 325.

Unusual anhydrous mineral assemblage in the Alais (Cl) meteorite. J.D. Macdougall and J.F. Kerridge, Meteoritics 11, 326.

The search for the Holy Grail and why Orgueil is not it. J.F. Kerridge, Meteoritics 11, 308-309.

1977


1978


Fractionated magnesium isotopes in Murchison refractory inclusions. J.D. Macdougall and D. Phinney, 4th International Conference, Geochronology, Cosmochronology and Isotope Geology, 270-272.

CI regolith period: clues from particle tracks. J.D. Macdougall, Meteoritics 13, 543.


1979

Refractory spherules and inclusions in Murchison. J.D. Macdougall, Meteoritics 14, 477-478.

Composition and energy spectra of solar flare heavy nuclei during the early history of the solar system. J.N. Goswami, D. Lal and J.D. Macdougall, Proc. 16th International Cosmic Ray Conf., 116-121.

Characteristics of ancient solar flare heavy nuclei. J.N. Goswami, D. Lal and J.D. Macdougall, Conf. on the Ancient Sun, Lunar and Planetary Institute, 40-42.

1980


Trace element abundances in ultra-refractory condensates from the Murchison meteorite. W.V. Boynton, R.M. Frazier and J.D. Macdougall, Meteoritics 15, 269

1981


Space exposure of breccia components. J.D. Macdougall, Workshop on Lunar Breccias and Soils and Their Meteoritic Analogs, Houston.

1982


1983


List of Publications under NASA Grant NSG7121

1976


1977


1978


1979


1980


1981


* Reprint not included.
1983

Nuclear track and compositional studies of olivines in CI and CM meteorites.

1984

Early solar system aqueous activity: Sr isotope evidence from the Orgueil CI Meteorite.