

## REASSESSMENT OF COSMIC-RAY EXPOSURE AGE OF CO, CV, AND CK CHONDRITES

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### ABSTRACT

Meteorites have cosmogenic nuclides depending on how long they are exposed to cosmic-ray. Exposure to cosmic-ray is occurred on surface of parent body of meteorites and after ejection from their parent body to space. Cosmic-ray exposure (CRE) age is the time when meteorites were ejected to space, simply, and cluster of CRE ages of meteorites suggest common impact event occurred at that time on parent body of those meteorites. CRE ages indicate collisional history of meteorites. In some meteorites groups such as Martian meteorites and ordinary chondrites, it is well distinguished [1]. Potential clusters between CO, CV, and CK chondrites, those having similar range of CRE age among carbonaceous chondrites [1], were suggested on ~9 Ma between CV and CK and ~29 Ma between CO, CV, and CK by Scherer and Schultz [2] obtaining CRE ages assuming average shielding for some meteorites. However, 10 reported CRE ages of CO, CV, and CK after [2] are different with potential peaks suggested [3, 4, 5], and it makes more hard to find common peaks of CRE ages between those groups.

In this study, CRE ages of CO, CV, and CK chondrites are recalculated from [2-6] using model for production rate of cosmogenic nuclides by [7] to access attentively collisional history of CO, CV, and CK chondrites.

[1] Herzog G. F. and Caffee M. W. (2014) *Treat. Geochem. 2<sup>nd</sup> Ed.* 1, 419–453. [2] Scherer P. and Schultz L. (2000) *MAPS* 35, 145–153. [3] Bartoschewitz R. et al. (2010) *MAPS* 45, 1380–1391. [4] Leya I. et al. (2013) *MAPS* 48, 1401–1414. [5] Choi J. et al. (2017) *MetSoc* 2017 # 1852. [6] Schultz L. and Franke L. (2004) *MAPS* 39, 1889–1890. [7] Leya I and Masarik J. (2009) *MAPS* 44, 1061-1086.