

Thermoluminescence studies of unequilibrated ordinary chondrites in the Japanese Antarctic meteorite collection

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We measured TL properties of an additional 37 Asuka and 13 Yamato type 3 ordinary chondrites at the Okayama University of Science and determined their petrologic subtypes. Three meteorites (A-9043, A-87319 and Y-793384) in our new dataset exhibit very low TL sensitivities, comparable with unequilibrated ordinary chondrites of petrologic type under 3.1. We completed induced and natural TL measurements, bringing our data set to 121 samples. Most meteorites studied in this work are of petrologic type 3.6-3.9.

We found 22 TL potential pairing groups in 26 Asuka H3 chondrites. They comprise a chain of pairing groups implying an H3 chondrite shower near the Asuka area.