



EPSC Abstracts

Vol. 14, EPSC2020-994, 2020

<https://doi.org/10.5194/epsc2020-994>

Europlanet Science Congress 2020

© Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.



## Statistical analysis of asteroid taxonomic signatures from magnitude phase function

Zhong-Yi Lin<sup>1</sup>, **Chung-Chien Cheng**<sup>2</sup>, Chan-Kao Chang<sup>1</sup>, Wei-Ling Tseng<sup>2</sup>, and Wing-Huen Ip<sup>1</sup>

<sup>1</sup>Graduate Institute of Astronomy, NCU, Taoyuan, Taiwan (if207if@gmail.com)

<sup>2</sup>Department of Earth Sciences, NTNU, Taipei, Taiwan (60744022s@ntnu.edu.tw )

According the H-G magnitude system ,this work using the known spectral-type asteroids (about three hundreds asteroids including MBAs and NEAs) found from literature, we derived the new G-value of two main taxonomic groups in both g and r filters (In g filter, C-type is  $0.095\pm 0.112$ , and S-type is  $0.257\pm 0.165$ . In r filter, C-type is  $0.091\pm 0.134$ , and S-type is  $0.280\pm 0.158$ ). We then used these values to identify the unknown taxonomic near-Earth asteroids(NEAs) obtained by (ZTF) from June 2018 to May 2020. In total, more than one hundred NEAs had been classified into C- and S-complex. In addition, the investigation of size distribution in NEAs found that the C-complex asteroids are relatively larger than S-complex asteroids, probably due to observational bias (albedo).