Record Nr. UNINA9910254615103321 Autore Byrne Charles J Titolo The Moon's Largest Craters and Basins: Images and Topographic Maps from LRO, GRAIL, and Kaguya / / by Charles J. Byrne Cham: .: Springer International Publishing: .: Imprint: Springer. . Pubbl/distr/stampa 2016 **ISBN** 3-319-22032-2 Edizione [1st ed. 2016.] 1 online resource (253 p.) Descrizione fisica 500 Disciplina Soggetti Astronomy Observations, Astronomical Astronomy—Observations Planetology Popular Science in Astronomy Astronomy, Observations and Techniques Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Introduction -- Refining the sequence of features -- Feature Diameter as a Function of Sequence Number -- Initial Depth and Later Isostatic Compensation -- Bouguer Gravity Patterns of Impact Features --PreNectarian Period -- Nectarian Period -- Early Imbrium Period -- Late Imbrian Period. Sommario/riassunto This most recent book from lunar expert Charles J. Byrne combines the latest comprehensive imagery, topography and gravity data from all three recent Moon missions, Kaguya, Lunar Reconnaissance Orbiter and GRAIL. These major polar-orbit surveys are presented here in compact form for the convenience of amateur and practical astronomers concerned with the Moon. Chosen from the Near and Far Side's large craters and basins over 200 km in diameter, each of the 71 highlighted features is depicted with a two-page presentation of the data that includes false color topographic maps next to the mission images.

Additionally, the features are presented in the estimated chronological sequence of their creation, based on a consideration of stratigraphy (overlapping layers from neighboring features) and the relative

degradation of surface features. Using this sequence as a way to convey the relative ages of lunar features, the author presents various theories concerning the Moon's impact and thermal history e.g. the available evidence allows for constraints to be placed on the duration of the Late Heavy Bombardment period. The relationships between impact dynamics and variations in the gravity field of the Moon are also discussed. The new mission data makes possible this renewed conjecture about the history and evolution of the Moon, which is presented here with much worthwhile information for amateurs and professionals alike.