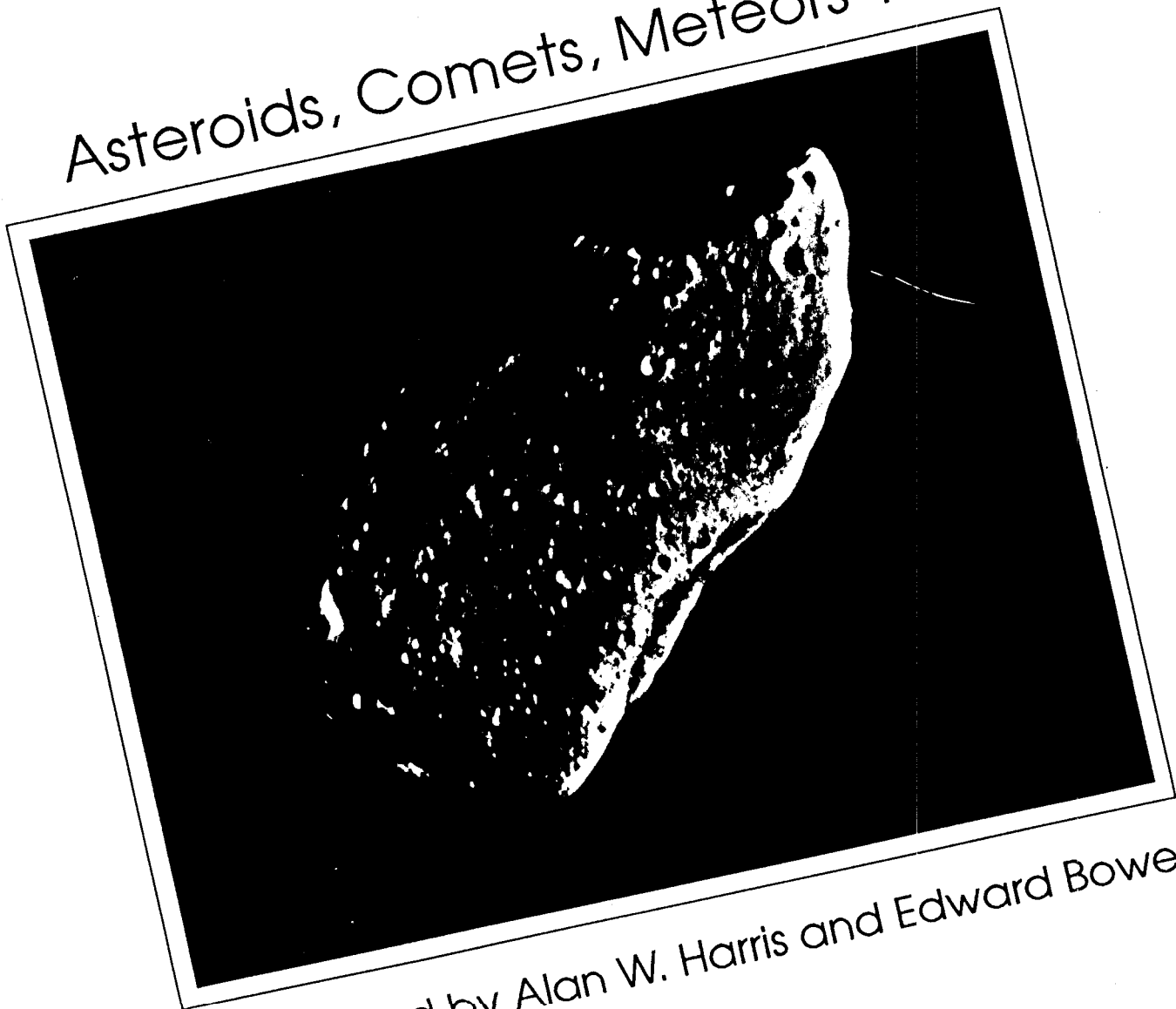


Asteroids, Comets, Meteors 1991



Edited by Alan W. Harris and Edward Bowell

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Cover Photo: (951) **Gaspra**, imaged by the Galileo spacecraft from a range of 5300 km on October 29, 1991, is an irregular S-type asteroid 19 X 12 x 11 km in size. The resolution of 54 m/pixel is the highest for the **Gaspra** encounter. The Sun is shining from the right, and the phase angle is 50°. **Gaspra**'s north pole is at upper left (in reference to frame of photograph); it rotates in the prograde sense with a 7.09-hr period.

Gaspra is much more heavily cratered than previously studied bodies of comparable size such as **Phobos** and **Deimos**. The asteroid's very irregular shape suggests that it was collisionally derived from a larger body. Consistent with such a history are groovelike **lineaments**, thought to be related to fractures, that are 100 to 300 m wide and tens of meters deep. The **lineaments** form two intersecting groups of differing morphology, one group being wider and more pitted than the other. Such features have hitherto only been *seen on Phobos*, but were predicted for asteroids as well. **Gaspra** also exhibits a variety of enigmatic curved depressions and ridges in the terminator region at left. Image courtesy of Jet Propulsion Laboratory.

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