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Flyer acceleration by high-power laser and impact experiments at velocities higher than 10 km/s T. KADONO, T. SAKAIYA, Y. HIRONAKA, T. WATARI, K. OTANI, T. SANO, T. FUJIWARA, T. MOCHIYAMA, M. ARAKAWA, S. TAKASAWA, A.M. NAKAMURA, K. KUROSAWA, T. HAMURA, S. OHNO, S. SUGITA, T. MATSUI, H. NAGATOMO, S. FUJIOKA, K. SHIGEMORI — Impact velocity of meteorites on planetary and satellite surfaces at the final stage of planetary accretion becomes more than 10 km/s. Recently, we have developed a macroscopic (larger than 0.1 mm) flyer acceleration technique to velocities more than 10 km/s using high-power lasers. In this presentation, we show that higher impact velocities than 10 km/s can be achieved using sheet flyers with a diameter of 0.6 mm and a thickness of 0.03 - 0.05 mm and spherical projectiles with a diameter of 0.1 - 0.3 mm, and that various impact experiments are carried out using this technique.

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