SPACE EXPLORATION SYMPOSIUM (A3)
Mars Exploration – Part 1 (3A)

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JOINT MARS EXPLORATION WITH MASTER-SLAVE SATELLITES IN GROUP

Abstract

Mars exploration has been taken as the breakthrough point of deep space exploration activities of China, with follow-up comprehensive plan in progress, including sun, asteroids, Venus and Jupiter explorations, etc. According to the plan, mars exploration will be carried out by three main stages: global remote sensing, soft landing and Martian rover inspection, as well as autonomous sampling and return. To combine the first stage of global remote sensing being conducted in China, which is aiming at mars space environment detection and celestial surface sensing by mars probe on the big elliptic equatorial orbit, a joint exploration scheme with main satellite carrying several micro-nano subsatellites operating around the mars in group is proposed. The probe entries the big elliptic equatorial orbit with several micro-nano subsatellites on board, then releases them designedly, finally forms coordinate exploration. By this way, flexibility of exploration is improved dramatically, and more details and precious Martian information can be obtained as well. There are many advanced and innovate points in the scheme of master-slave satellites group joint exploration, in consequence, participation and cooperation of aerospace industry and dominant universities at home (including those in Hongkong, Marco and Taiwan) and abroad is needed.