40 YEARS OF SLR IN INDIA (REMEMBERING THE PAST). K. Elango, Senior Scientist (Retired), Manager, PRARE, SLR and GPS Systems, Deputy Project Director, IRNSS, Indian Space Research Organisation (ISRO), H-19, Tamil Nadu Housing Board Colony, Rasipuram Post, Namakkal District, TN-637408, INDIA. e-mail :elango.kattimuthu@gmail.com

Abstract:
Based on the proposal submitted by ISRO in 1974, Government of India has approved in July 1975 the collaboration between Indian Space Research Organisation (ISRO) and Academy of Sciences - USSR (AS-USSR) in establishing a laser ranging station for scientific purposes at Kavalur, in India, as part of Inter-Cosmos Network, This station was named as Satellite Tracking and Ranging Station (STARS) and having first generation laser system, was operational by October 1976. This paper briefs the history of SLR in India/ISRO from 1976 till date (remembering the past golden memories). This includes the operational experience of SLR for more than a decade, satellites tracked, developments and up-gradation incorporated, international laser experts visited, support services provided to other systems, different Space Geodetic Technics planned at Bangalore, participation of ISRO scientists in the international workshops/seminars, ISRO initiative for Space Geodesy etc. This also reveals the ISRO's plan of incorporation of retro-reflectors (Laser Retro Reflector Array – LARA) to Indian satellites like SROSS-1, IRS-P5 etc. for preliminary orbit determination. Attempts made by ISRO to procure/host laser stations like TLRS-4 from NASA, TIGO from BKG, Germany and laser stations from USSR are also mentioned. ISRO scientists participation in ILRS, ILRS present logo design, WPLTN are also mentioned. The current plan/status of CCRR payload to Indian navigational satellites (IRNSS) for POD is provided in detail. Establishment of two state of art laser stations in India (expected operational by 2015), geographically separated by 2000 km by ISRO, a long pending issue of filling the Indian Ocean laser station network gap by the international laser community for geodetic applications, is also briefed. Future advances/suggestions are also outlined.