

47th IAA SYMPOSIUM ON THE SEARCH FOR EXTRATERRESTRIAL INTELLIGENCE (SETI) –
The Next Steps (A4)
SETI 1: SETI Science and Technology (1)

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INAF-UC BERKELEY COLLABORATION FOR SETI

Abstract

Since 1998, Italian astrophysics institutes (now part of the Italian National Institute for Astrophysics, INAF) have been collaborating with the SETI group at the University of California, Berkeley. Thanks to this collaboration, the SERENDIP IV setup was installed at the 32-m Medicina radio telescope near Bologna, Italy. This setup was used for SETI observations in piggy-back mode over several years. More recently, the 64-m Sardinia Radio Telescope (SRT) was inaugurated (in 2013) and a first early science run was conducted in 2016. SETI is one of the largest international projects that the SRT will be involved in. The collaboration between INAF institutes and UC Berkeley was revived in 2014, with a variety of activities: the SETI data analysis of the Green Bank Telescope (GBT) and Parkes radio telescopes as part of the Breakthrough Listen program; SETI observations at the SRT (observations of nearby stars or galaxies); the development of a real-time Karhunen-Loeve Transform (KLT) algorithm, which will be used at the SRT, GBT and Parkes; implementation of Fast Radio Burst (FRB) search pipeline using the KLT algorithm; the porting of GBT and Parkes instruments to the SRT for SETI, FRB and pulsar research; the possible participation of the SRT in the Breakthrough Listen program, in particular with its new seven-feed S-band receiver (3 - 4.5 GHz). We present the status of these activities as well as a timeline and future perspectives for the collaboration.