Proposal Abstract:

G209.9-8.2 and G210.5+1.3 are two new supernova remnants (SNRs) recently discovered by Fesen et al. through deep optical observations. They both exhibit strong Hα and in particular [O III] line emission. Unlike the other known SNRs shown in Fesen's work, the morphologies illustrated by Hα and by [O III] for the two new SNRs, especially for G210.5+1.3 are totally different and spatially misplaced. Both Hα and [O III] trace the shock fronts of SNRs, but under different conditions, e.g. temperature and shock speed. Radio shells are also tracers of the SNR shocks. With the unprecedented sensitivity and full Stokes observations of FAST, we have a valuable oppotunity to investigate the properties of G209.9-8.2 and G210.5+1.3 in the perspective of radio. We aim to detect the radio emission associated to [O III] and Hα respectively, and compare through spectral indices and polarization to learn the different properties in different parts of the SNRs.