Proposal Abstract:

Jets is a key element of AGN which can drive powerful outflows and greatly impact their host galaxies. However, as a main source of feedback, jet-gas interactions are rarely studied. An effective way to study jet-gas interactions is to observe redshifted HI absorption against background radio continuums. Usually, the blueshifted, broad and shallow HI absorption spectra trace the jet-gas interactions. However, due to the requirement of high sensitivity, there are a few detections of jet-gas interactions so far. The Five-hundred-meter Aperture Spherical radio Telescope (FAST) with large collecting area is an ideal tool to study jet-gas interactions. In this proposal, we propose to use the FAST telescope to confirm previous potential detections and search for new cases in compact radio sources. We expect this will increase the known number of jet-gas interactions/jet-driven outflows and allow us to study the co-play between jets and host galaxies. In total, we request 16 hours to observe 15 targets.