

Electromagnetic transition rates are recognized as observables critical for evaluation of nuclear structure effects and verification of nuclear models. Doppler-shift lifetime measurements in inverse kinematics provide an opportunity to directly access information about electromagnetic transition rates in a way which is fully independent on the reaction mechanism. As such, Recoil Distance and related Doppler Shift Attenuation Methods (DSAM), when implemented at stable and/or radioactive beam facilities, hold the promise of reaching far from stability and providing lifetime information for intermediate-spin excited states in a wide range of nuclei. This is well proven by implementation of the Recoil Distance Method with intermediate energy beams from fragmentation at the National Superconducting Cyclotron Laboratory. In response to new opportunities opened by availability of re-accelerated beams from the ISAC-II facility at TRIUMF, a plunger-type recoil distance method device, the TIGRESS Integrated Plunger (TIP), has been constructed at Simon Fraser University to be used with the TIGRESS segmented Germanium array as part of the ISAC-II experimental program. The TIP is designed to achieve control of sub-micrometer shifts between target and degrader and can be run in a self-standing mode or to in tandem with a CsI array of charged particle detectors for reaction channel selection from fusion-evaporation reaction. A compact CsI array with digital readout has been developed as a part of the TIP facility and run without the plunger using the TIP vacuum vessel in spectroscopy and DSAM experiments. TIP is also designed to be coupled with the forthcoming TIGRESS auxiliary deuterated neutron detector array DESCANT and the electromagnetic spectrometer EMMA. A summary of the development and experimental program will be presented.