



## Preparation of Nihonium chemistry at IMP

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China Accelerator Facility for Superheavy Elements (CAFE2) has been developed at the Institute of Modern Physics (IMP). The heavy ions beam (such as  $^{40}\text{Ar}$ ,  $^{40}\text{Ca}$ ,  $^{55}\text{Mn}$  and  $^{54}\text{Cr}$ ) with energy of 5-7 MeV/u and beam intensities of several puA were successfully commissioning last year. New gas-filled recoil separator, SHANS2 (Spectrometer for Heavy Atoms and Nuclear Structure-2), with five magnets arranged in a Q $\nu$ -D-Q -Q $\nu$ -D configuration is constructed behind CAFE2. The verification experiment of element Mc with  $^{48}\text{Ca}+^{243}\text{Am}$  reaction will be performed near future, and it will give us the chance to investigate the chemical properties of nihonium at IMP. An on-Line Experiment in Gas-phase for Nihonium Detector array (LEGEND) is developing, and the test experiment with  $^{225,227}\text{Ac}$  sources will be reported in presentation. The LEGEND array with temperature gradient will be established and the different detector surface materials such as  $\text{SiO}_2$ , Al, carbon and SiC will be employed