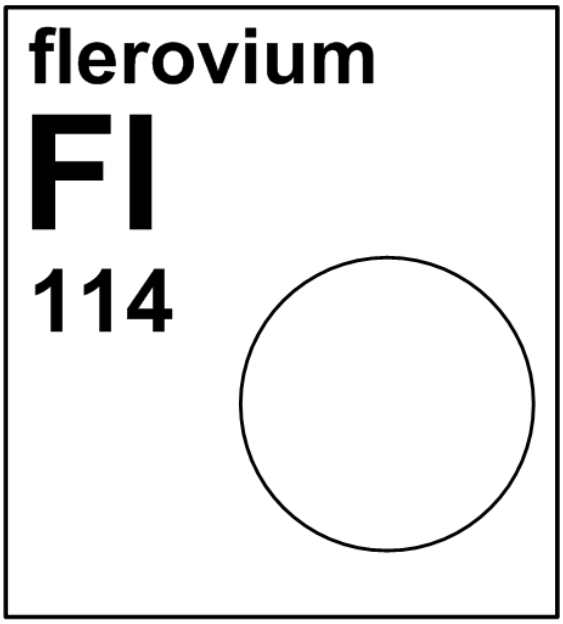
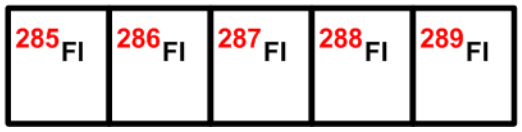
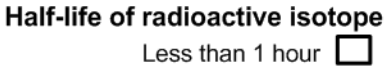
4.114 flerovium



Stable isotope	Relative atomic mass	Mole fraction
(none)		





Flerovium does not occur naturally in the Earth's crust. Flerovium was named for the Flerov Laboratory for Nuclear Reactions of the Joint Institute for Nuclear Research (JIRN). In 1999, a collaboration of scientists from the Joint Institute for Nuclear Research in Dubna, Russia (Figures 4.114.1 and 4.114.2) and the Lawrence Livermore Laboratory in the USA synthesized flerovium. They used nuclear reaction experiments to eventually produce ^{287}Fl, by cross-bombardments of ^{48}Ca with both (even-*A*) ^{242}Pu and (odd-*A*) ^{245}Cm. The intermediate nuclide ^{283}Cn was observed with known decay characteristics that established the synthesis of flerovium [665, 666]. Flerovium has no known isotopic applications aside from scientific research.

Fig. 4.114.1: The research team at the Joint Institute for Nuclear Research (JINR) in Russia that discovered flerovium with a team from the Lawrence Livermore Laboratory in the USA. They are standing around one of the mass separators that they use to produce superheavy **elements**. (Photographer: Yuri Gripas Gamma Liaison) (Picture Source: Yuri Ts. Oganessian, Joint Institute for Nuclear Research) [665, 667].

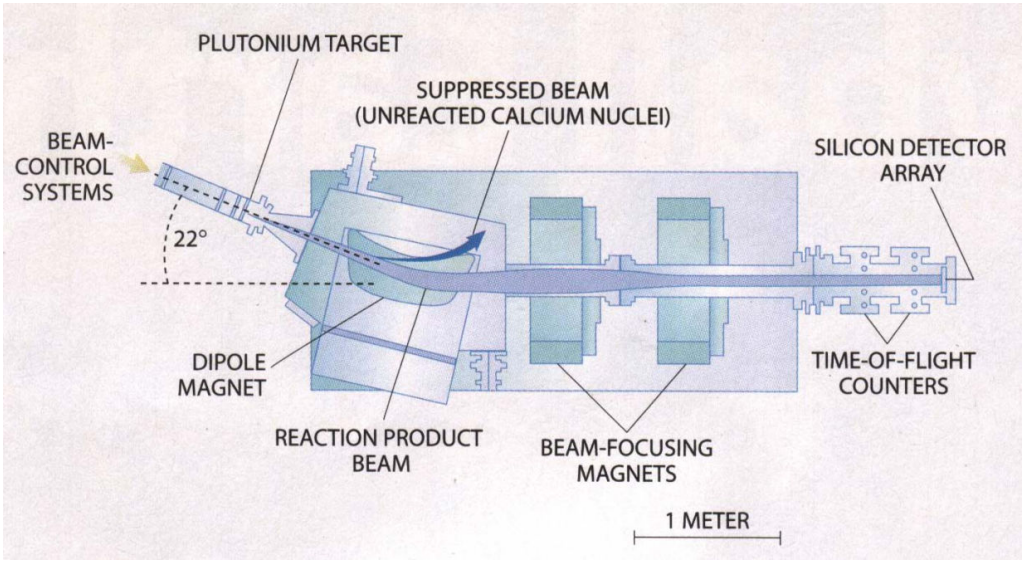


Fig. 4.114.2: Schematic diagram of one of the gas separators at the JINR in Dubna, Russia. (Photographer: Laurie Grace) (Picture Source: Yuri Ts. Oganessian, Joint Institute for Nuclear Research) [665, 668].