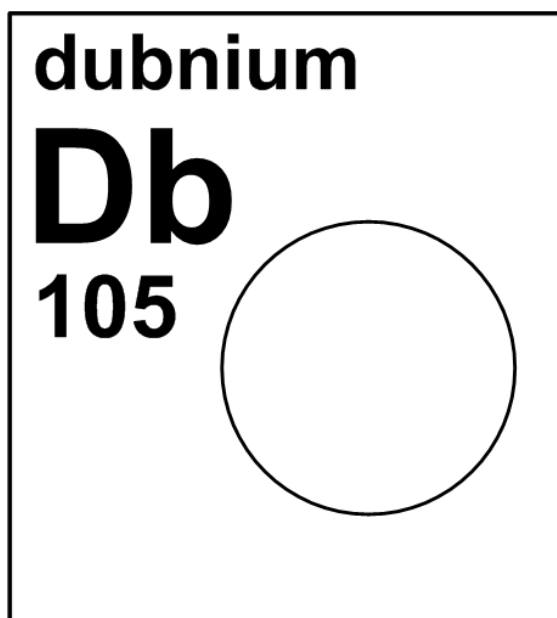




4.105 dubnium



Stable isotope	Relative atomic mass	Mole fraction
(none)		

Half-life of radioactive isotope

Less than 1 hour 

Between 1 hour and 1 year 

255 Db	256 Db	257 Db	258 Db	259 Db	260 Db	261 Db	262 Db	263 Db	266 Db
267 Db	268 Db	270 Db							

Dubnium does not occur naturally in the Earth's crust. Credit for the first synthesis of this **element** is given jointly to Albert Ghiorso and his team at the University of California in Berkeley and Georgi Flerov and his team at the Joint Institute for Nuclear Research (JINR) in Dubna, Russia (Figure 4.105.1). The element is named for the location of the Joint Institute for Nuclear Research (JINR) laboratory in Dubna, Russia [643, 644]. Dubnium has no isotopic applications outside of scientific research.

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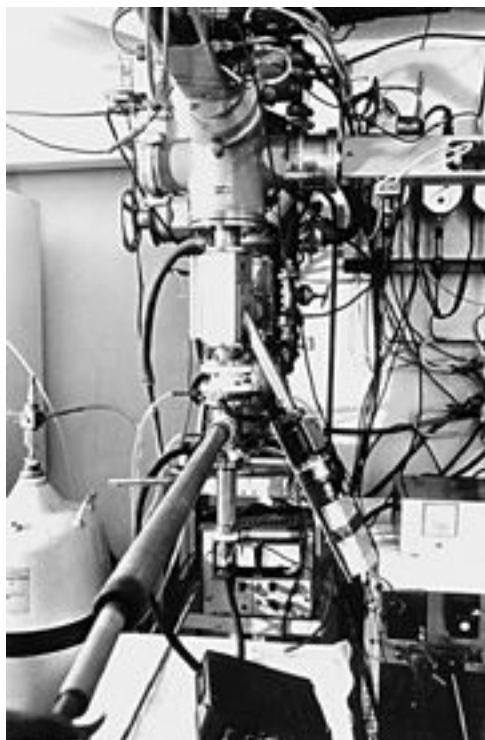


Fig. 4.105.1: Photo of the **cyclotron** U-300 used to synthesize dubnium. This is a 300-cm heavy-ion cyclotron built at the international Joint Institute for Nuclear Research (JINR) and put into operation in 1960. (Photo used with permission from Ivo J. Zvara, Joint Institute for Nuclear Research (JINR)). (Photo Source: Ivo J. Zvara, American Chemical Society, 2003) [643].