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## Vapour pressure differences of the Xenon Isotopes

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### Summary

A central topic in the development of understanding of the nature of neutrinos is the search for neutrinoless double beta decay. As increasingly sensitive detectors are required for such searches, a major cost and feasibility concern is the availability of sufficient separated isotope for the chosen target.  $^{136}\text{Xe}$  is a very attractive target for these studies. At present this isotope is only available from the Centrifuge systems in Russia. We are exploring the feasibility of doing this enrichment using distillation. To start this study we require the vapour pressure differences of the xenon isotopes which have not been measured to date. This paper will describe the measurement of these vapour pressures using a tall cryogenic distillation process.

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