

scintillation-type counter. The latter would have the added advantage of extending the temperature range of the measurements beyond the limited working range of G.M. tubes. Further improvement in the sensitivity of the method could be obtained by using greater concentrations of the tracer atom, but this could be done only in a laboratory equipped to handle large amounts of radioactive material.

With these refinements, it should be possible to measure the radioactivity of the saturated vapour directly. The ratio x_2/x_2° would then be given by the ratio of the counting rates observed with and without the solvent gas present, thus eliminating the error introduced by the empirical calibration.

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¹ *Faraday Soc. Discussions*, 1953, 15.

² Ewald, Jepson and Rowlinson, *Faraday Soc. Discussions*, 1953, 15, 238.

³ Diepen and Scheffer, *J. Amer. Chem. Soc.*, 1948, 70, 4081, 4085.

⁴ Michels and Gelderman, *Physica*, 1942, 9, 967.

⁵ Ensell and Chatterjee, *Rev. Sci. Instr.*, 1951 22, 700.