

Research on gamma ray-induced removal of heavy metal ions from aqueous solutions

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Abstract

Reduction and removal of heavy metal ions from water by irradiation of γ ray were investigated. Experimental results showed that no concentration change was found when aqueous solutions of metal ions were irradiated with γ ray either directly, or after bubbled with He gas. On the other hand, reduction of metal ions was realized by the irradiation in existence of Na_2SO_3 . Precipitates were observed in the all irradiated solutions of 4 metal ions of Ag^+ , Zn^{2+} , Cu^{2+} , and Co^{2+} . Especially, the precipitate from Ag^+ solution was found to be pure Ag.