**Highlights (for review)**

* The rare earth concentrate produced after sulfuric digestion of Egyptian crude monazite mineral (grade 50%) contains normally trace amount of uranium. The big concern in rare earth industry was the separation of uranium from rare earths. Beside removal of uranium as radioactive contaminates from REEs products, its recovery would increase to its importance in the field of nuclear energy.
* A technological separation of uranium from rare earths sulfate liquor has been proven using lewatit mono plus M500 ion exchange resin.
* The latter have actually been optimized from rare earths sulfate solution.
* The achieved uranium saturation capacity using (lewatit mono plus M500) has attained 40.65 mg/g.
* A marketable pure product of rare earth oxide was prepared in addition to pure sodium di-uranate containing total uranium content of the starting REEs cake (Up-scaling).