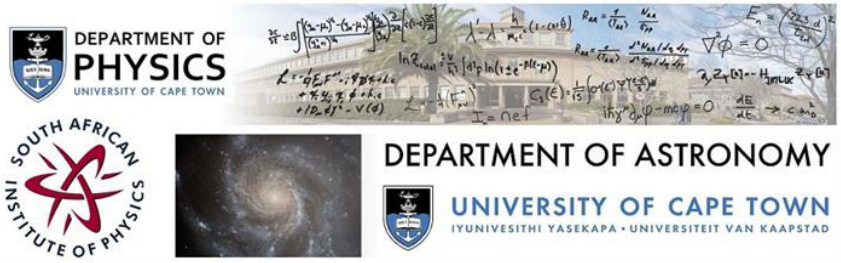

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Physical stability of ionic liquid polymers for the recovery of Se and Te from metallurgical aqueous solutions

Friday, 8 July 2016 15:00 (20 minutes)

Abstract content
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The use of ionic liquid (IL) has currently gained interest in many sectors (food industry, mining and process industry, etc..). The development of an appropriate IL for a specific application requires the knowledge of the physical system involved and of that of the IL's physical properties. Considering that ILs can be subjected to high temperatures and long-time exposures, ILs physical stability is essential when selecting the suitable IL constituting components for the application. Thermal stability of ILS is affected by parameters as length and type of the polymer, cation and anion type, structural modification of the cation for e.g. alkyl length, different functionalities in the alkyl chain and impurities as water or chlorides. Temperature has influence on the liquid state and emission of toxic vapours of ILs, the significant thermal analysis are melting point, the glass transition temperature, the crystallisation temperature and decomposition temperature. This paper discusses the physical stability, using Thermal Gravimetric Analysis, of the trihexyl (tetra) decyl phosphonium chloride based IL as used in the recovery of Se and Te from the base refinery aqueous solutions.

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