



Contribution ID: 29

Type: **Talk**

## Improving the Reliability of the Accelerator Facility at iThemba LABS

*Wednesday, October 18, 2017 9:00 AM (30 minutes)*

iThemba LABS will be celebrating 30 years of operation with the K200 separated sector cyclotron (SSC) in 2017. This accelerator has produced charged particle beams for radioisotope production, nuclear physics research and medical radiation therapy very reliably over the years. iThemba LABS also operates two electrostatic accelerators. As a result of aging equipment, the number of interruptions to the scheduled beam delivery has gradually increased. This situation has been compounded by external influences such as power failures and interruptions to the water supply. To curtail the amount of downtime the facility has had to embark on a dual approach to limit interruptions to the scheduled beam delivery. The first approach entails replacing obsolete and inefficient infrastructure. Examples of such aging infrastructure are the chiller plant and Van de Graaff accelerator. The other approach is to upgrade outdated infrastructure. An example of is the control electronics upgrade, as well as moving the control system onto an EPICS platform. Details of these interventions will be presented as well as their positive impact on the reliability of the facility.

**Primary author:** CONRADIE, Jacobus Lodewikus (Lowry) (iThemba LABS)

**Co-authors:** Mr ABRAHAM, Justin (iThemba LABS); Mr BAKKES, Coenie (iThemba LABS); Mr DUCKITT, William (iThemba LABS); Mr CROMBIE, Amien (iThemba LABS); Mr DU PLESSIS, Hermanus (iThemba LABS); Mr SWARTZ, Leslie (iThemba LABS); Mr VAN SCHALKWYK, Pieter (iThemba LABS); Mr VAN NIEKERK, Johan (iThemba LABS); Dr THOMAE, Thomae (iThemba LABS); Mr FOURIE, Dirk (iThemba LABS); Mr LUSSI, Christian (iThemba LABS); Mr KOHLER, Ivan (iThemba LABS); Mr MOSTERT, Hendrik (iThemba LABS); Mr SAKILDEN, Muneer (iThemba LABS); Mr STODART, Nieldane (iThemba LABS); Mr MCALISTER, Rob (iThemba LABS)

**Presenter:** CONRADIE, Jacobus Lodewikus (Lowry) (iThemba LABS)

**Session Classification:** 09- Maintenance for High Reliability

**Track Classification:** Maintenance for High Reliability