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The Spectrometer for Internal Conversion Electrons at TRIUMF-ISAC[1] JAMES SMALLCOMBE, LEE EVITTS, ADAM GARNSWORTHY, MOHAMAD MOUKADDAM, TRIUMF, SPICE COLLABORATION — SPICE (SPectrometer for Internal Conversion Electrons) is a powerful tool to measure conversion coefficients and $E0$ transitions in nuclei. $E0$ transition strengths, which are not accessible by gamma-ray spectroscopy, are a sparsely measured observable. Such transition strengths are particularly sensitive to nuclear shape and state mixing effects and as such are a key item of data in studying the evolution of shape coexistence. SPICE is an ancillary detector that has been commissioned for use with Radioactive Ion Beams (RIBs) at the ISAC-II facility of TRIUMF. The main feature of SPICE is high efficiency over a range of electron energies from 100 to 3500 keV, crucial for work with RIBs, and an effective reduction of beam-induced backgrounds. This is achieved with an upstream magnetic lens, a high-Z photon shield and a large-area lithium-drifted silicon detector. A major theme of the physics program will be the investigation of shape coexistence and state mixing in exotic nuclei. An overview of the main features of SPICE will be presented alongside details of the commissioning and preliminary data from the first experiment studying excited structures in ^{110}Pd.

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James Smallcombe
TRIUMF

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