



東工大 物理学系「物理学リーダーシップ」

FGIP : Foreign Graduate Student Invitation Program

外国人博士課程大学院生の短期招待・共同研究

FGIP - Student Forum セミナー

Julian Kahlbow (TU Darmstadt, Germany)

日時：2018年8月23日(木) 15:00 - 16:00, 場所：本館HI55B

## Neutron decays beyond the drip line studied at SAMURAI

### Abstract:

The RIBF (RIKEN) offers the opportunity to study very neutron-rich, short-lived nuclei. Those nuclei that are unbound and decay via neutron emission can in particular be investigated at the SAMURAI setup. Together with the neutron-detection systems NEBULA and NeuLAND, kinematically-complete measurements are performed.

An interesting region of the nuclear landscape is the so-called 'island of inversion'. We study the structure of the heavy fluorine isotopes  $^{30}\text{F}$  &  $^{29}\text{F}$  in terms of the invariant-mass spectroscopy. The aim is to investigate the influence of  $pf$ -shell intruder configurations at the lower  $Z$ -region of the 'island of inversion'. First results will be discussed.

Also, the oxygen isotopes show interesting characteristics.  $^{26}\text{O}$  is unbound by only 18keV. This may cause an unusually 'long' lifetime of its ground state. We have developed a new experimental technique, which will be presented, to measure the lifetime in the picosecond region of nuclei that decay in-flight via neutron emission.



### FGIP - Guest student の滞在スケジュール

名前	大学・研究機関	滞在期間	受入担当
Julian Kahlbow	TU Darmstadt, Germany	8/1 - 8/31	齊藤敦美(中村研)