Contribution ID: **158** Type: **Oral**

INVESTIGATION OF KINETIC INSTABILITY OF SPIN WAVES IN NORMALLY MAGNETIZED THIN YTTRIUM-IRON GARNET FILMS

In this work, the behavior of secondary spin waves (SSW) arising under the action of parametric pumping in normally magnetized films of yttrium-irongarnet (YIG) was investigated. SSW frequencies differ from the frequency of parametric spin waves (PSW) with longitudinal pumping and correspond to the position of the bottom of the spin-wave spectrum. The dependences of the threshold of parametric instability and radiation frequency on the threshold of instability of SSW from the external magnetic field and the power of the microwave pumping have been obtained and analyzed. It is shown that for a normally magnetized film, the parametric excitation of the SSW leads to the appearance of electromagnetic radiation at the frequency γHeff. The threshold of kinetic instability weakly depends on the power of the microwave pumping and is determined by an external constant magnetic field.

Primary authors: Mr MARTYNCHYK, Yurii (Student); Dr KOBLJANSKYI, Yuri (Ph. D. Assoc. Prof.); Mr KONDRATOVYCH, Yuri (Lead Engineer)

Presenter: Mr MARTYNCHYK, Yurii (Student)

Track Classification: Magnetism and Superconductivity