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Density response function in a non-zero temperature Bose—Einstein Condensates[1] SHOHEI WATABE, Tokyo University of Science — Density collective excitation and single particle excitation are interesting in a Bose—Einstein Condensates (BECs). Those are coupled thanks to the BEC and these phonon velocity are common in those two spectrum, which is not seen other system. Furthermore, multi-particle excitations in the density response function have been extensively studied in the context of liquid helium. In this talk, I present the feature of the density response function and spectral function in a non-zero temperature BEC within the random-phase approximation, assuming the ultra-cold quantum gases with a contact interaction not liquid helium including maxon and roton dispersion.

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Shohei Watabe
Tokyo University of Science

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