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## LONGITUDINAL SPIN DYNAMICS IN ANTIFERROMAGNETS: GREEN FUNCTIONS APPROACH

## **Contact Phone**

## Abstract

A microscopic model is used to describe longitudinal spin excitations in a two-sublattice antiferromagnet (AFM). The diagrammatic technique for spin operators allows to overcome limitations typical for phenomenological approaches. We have obtained an expression for the longitudinal dynamic spin susceptibility  $\chi zz(q,\omega)$ applicable in all regions of frequency  $\omega$  and wave vector q space beyond the hydrodynamical and critical regimes.Virtual processes that determine the AFM longitudinal dynamical susceptibility are considered. It is shown that the frequency determined by the excitation/absorption of two magnonslies energetically above transverse spin wave frequency and it remains even in the absence of thermal excitations.

## **Type of Book of Abstracts**

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