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## Innovative Analytical calculation of the Group velocity in accelerating travelling wave structures.

*Monday, September 16, 2019 7:00 PM (1 hour)*

Ultra high-gradient accelerating structures are needed for the next generation of compact light sources. In the framework of the Compact Light XLS project, we are studying a high harmonic traveling-wave accelerating structure operating at a frequency of 35.982 GHz, in order to linearize the longitudinal space phase. In this paper, we propose a new analytical approach for the estimation of the group velocity in the structure and we compare it with numerical electromagnetic simulations that are carried out by using the code HFSS in the frequency domain.

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