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Electromagnetic analysis of radiofrequency accelerating structures using VSim¹ SALVADOR SOSA, SANDRA BIEDRON, TRUDY BOLIN, University of New Mexico, BRUCE CARLSTEN, Los Alamos National Laboratory, JOHN CARY, Tech-X Corporation, MARK CURTIN, Ion Linac Systems — In this contribution we showcase the use of the code VSim to the electromagnetic analysis of normal conducting, radio-frequency structures in two different frequency regimes and for two different applications. The first one is a radio-frequency quadrupole structure operating at 200 MHz and designed to accelerate a high intensity proton beam to 750 keV. The second type of structure is a compact, 5712 MHz (C-band) traveling wave Linac intended for accelerating electrons in future hard X-ray Free Electron Lasers. We discuss relevant electromagnetic figures of merit for both structure types and compare with preliminary results calculated with VSim.

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