Impact of Final-Focus Ground Motion on NLC Luminosity[*], J. IRWIN, F. ZIMMERMANN, SLAC - Vertical displacements of final-focus quadrupoles due to ground motion can cause the two NLC beams to miss each other at the IP and, in addition, will increase the IP spot size by generating dispersion and skew coupling. The sensitivity of the final-focus optics to plane ground waves is strongly wavelength dependent, which is formally expressed in terms of a lattice-response function. Using the measured ground-motion power spectrum, a realistic orbit-feedback response curve, and the appropriate lattice response function, the rms beam-beam separation and the rms IP spot-size increase are estimated for the NLC final focus. The luminosity loss due to ground motion is shown to be insignificant.

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