

## Design of the CESR-B cavity for Q external of 65000

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The superconducting cavity designed for the Cornell Electron Storage Ring B-Factory (CESR-B) has been successfully adapted for use in synchrotron light sources and are in use at Canadian Light Source, Taiwan LS, Diamond LS, Shanghai LS. The coupling for these systems results in external Q's of ~250,000 to 150,000. For application in new large diameter high brightness light sources such as NSLS-II and Taiwan Photon Source with very large ratios of beam power to cavity power the external Q must be reduced by increasing the coupling significantly. We present a coupler design which meets the NSLS-II Q external requirements of 65,000.

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