

Space Charge and Coherent Effects in Future Spallation Neutron Sources*, W.T. WENG, S.Y. ZHANG, AGS Dept., BNL, Upton, NY 11973 - In most of the designs for future spallation neutron sources, a synchrotron of a few GeV and capable of storing or accelerating a few 10^{14} ppp is called for. Such an intensity requirement is about a factor of three to seven of existing performance. Care must be exercised to ascertain that the space charge effect at injection and coherent instabilities through the acceleration cycle are acceptable and such high intensity can actually be achieved. Comparative studies will be done for available design parameters from various proposals.

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