Stripper foils for high intensity accelerators

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Stripper foils are required for injection into high intensity storage rings and synchrotrons, and at today's machines they are pushed to their limits. These foils are thin and fragile, yet they must withstand harsh radiation environments and extreme heating. At the Spallation Neutron Source we have demonstrated reasonable foil lifetimes of one to four months at a beam power of 1 MW, but it is not obvious that these foils will survive at the design power of 1.4 MW. Machines that are now being designed and planned will place even greater demands on stripper foils. This presentation will review the state of the art of stripper foils, their failure mechanisms, and plans for eventually replacing stripper foils with lasers.

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