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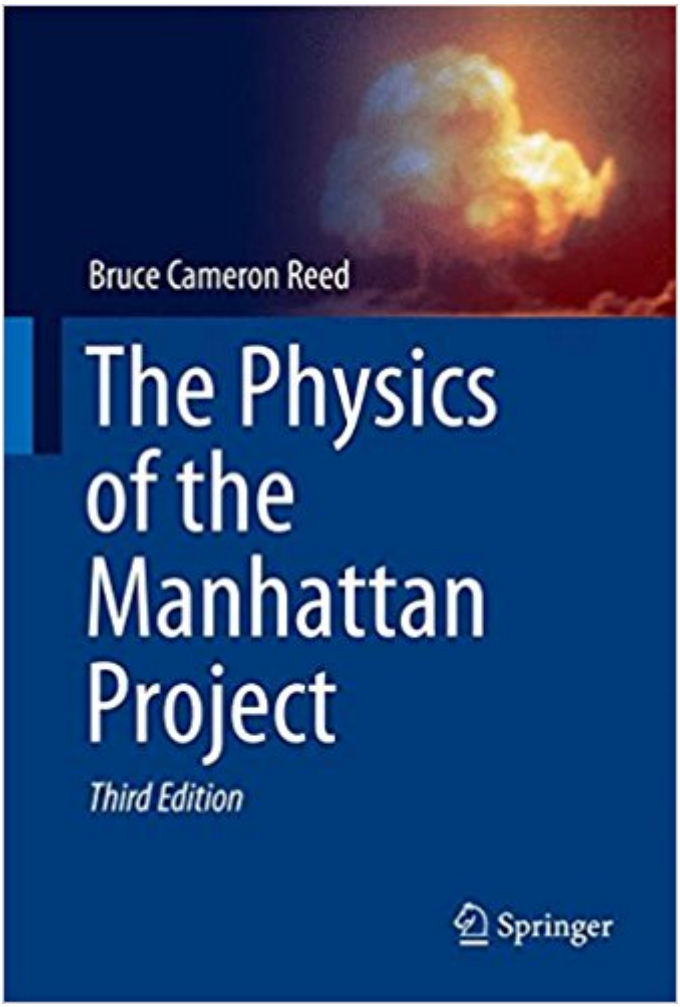

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The development of nuclear weapons during the Manhattan Project is one of the most significant scientific events of the twentieth century. This revised and updated 3rd edition explores the challenges that faced the scientists and engineers of the Manhattan Project. It gives a clear introduction to fission weapons at the level of an upper-year undergraduate physics student by examining the details of nuclear reactions, their energy release, analytic and numerical models of the fission process, how critical masses can be estimated, how fissile materials are produced, and what factors complicate bomb design.Â An extensive list of references and a number of exercises for self-study are included. Links are given to several freely-available spread sheets which users can use to run many of the calculations for themselves.

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use to run many of the calculations for themselves.

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