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The development of the ^{17}F beam at the Holifield Radioactive Ion Beam Facility¹ ROBERT F. WELTON, AND THE HRIBF STAFF, Physics Division, Oak Ridge National Laboratory, Oak Ridge, TN USA — This report details some of the key technological developments employed at the Holifield Radioactive Ion Beam Facility (HRIBF) to produce beams of ^{17}F using the $^{16}\text{O}(\text{d},\text{n})^{17}\text{F}$ reaction. The oxide fiber target material used at the HRIBF is described and a comparison is made between the ^{17}F yield achieved using light (Al) and heavy (Hf) metal oxide fibers. The development of the Kinetic Ejection Negative Ion Source (KENIS) employed in this work is also discussed along with the operational principles of the source. Finally, a detailed description of the HfO_2 target configuration used to produce $10^7 - 10^8$ ^{17}F ions/s for over 850 hours of operation is provided. To date, seven nuclear physics experiments using accelerated beams of ^{17}F and ^{18}F produced using this apparatus have been performed over an energy range of 10-170 MeV.

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- Prefer Oral Session
 Prefer Poster Session

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