

Abstract Submitted  
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**Prospects for True Muonium Physics with HPS** ANDRZEJ BAN-  
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muonium, the bound state of a muon-antimuon pair, is one of the smallest QED  
bound states in Nature and has thus far never been observed. The Heavy Pho-  
ton Search (HPS) experiment at Jefferson Laboratory, designed to search for new  
sub-GeV forces, should have sufficient sensitivity to discover and study True Muo-  
nium. We will describe how this can be done, and explain future prospects for True  
Muonium physics using the nominal HPS layout and potential upgrades.

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