The Sun is powered mostly by the fusion of two protons into the following particles:

$H^{1}+ H^{1}\rightarrow H^{2}+e+ ν$

Classically for this reaction to happen, the protons must come close enough to each other to "touch". Assume the proton is a uniformly charged, solid sphere of radius *rp* = 1.5 x 10-18m and that for fusion to occur the centers of two protons must come within a distance *rP* m of each other.

1. Begin with two protons that start very far apart from each other traveling toward another with equal and opposite velocities. What minimum speed *v* is required for the two protons to have a chance at fusing together to produce the above reaction?

I got v=2.25$×10^{8}^{m}/\_{s}$ as the velocity, my question is can this problem be solved without having to make a relativistic correction due to the reaction involved? From what I could gather from my 2 books it cannot be but it seems odd to have to do this for a physics 2 question…