A CHERENKOV IMAGER PROTOTYPE FOR THE AMS EXPERIMENT

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The AMS spectrometer will be implemented on the International Space Station at the end of the year 2003. Among the improvements over the first version of the instrument [**?**], a Ring Imaging Cherenkov detector (RICH) will be added. The latter opens new prospects for cosmic-ray physics, allowing isotope separation up to $A \approx 25$ at best, between 1 and 12 GeV/c, and element identification up to $Z \approx 20$ at best, between the threshold and 1 TeV/c per nucleon. It will also contribute to the high level of redundancy required by AMS for particle identification and should reject efficiently albedo particles. A first generation prototype was developped and the results have been thoroughly analysed. The second generation is now under construction by the AMS-RICH collaboration.

References

[1] see for example: R. Battiston, talk at 33rd COSPAR Scientific Assembly, Warsaw, Poland, 16-23 July 2000, astro-ph/0101547