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## Calculation of the atmospheric muon flux motivated by the ATIC-2 experiment

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### Abstract content

We calculate the cosmic ray muon flux at ground level using the model of primary cosmic ray spectra suggested by Zatsepin and Sokolskaya. The model supposes contributions to the cosmic ray flux of three classes of sources - the shocks from exploding stars, nova and supernova of different types. The model is supported by the new data obtained in the ATIC-2 balloon experiment. Present muon flux calculation is based on the method for solution of atmospheric hadron cascade equations in which we take into account rising total inelastic cross-sections of hadron-nuclear interactions as well as non-power-law character of the primary cosmic ray spectrum. The calculated muon spectrum is compared with recent experimental data of L3+Cosmic and CosmoALEPH as well as other experiments and calculations.

**If this papers is presented for a collaboration, please specify the collaboration**

### Summary

### Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 5 (HE part 2), pages 1511-1514

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