

The recombination model

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The recombination model has been a success story at RHIC. It describes certain features of hadron production at intermediate transverse momentum at RHIC energies by simply assuming coalescence of effective quarks into hadrons. R. J. Fries has been one of the main proponents of the recombination model in the past [1]. Currently efforts are focused on extended applications. More fundamental questions which remain open are under consideration as well and will be reported on in the future.

- (a) The so called Duke Recombination Model does only recombine thermal quarks at the hadronization temperature in heavy ion collisions. It has been suggested by other groups that recombination of thermal quarks with partons from jets may play an important role as well. A new project aims at implementing jet-thermal recombination into the Duke Recombination Model and to apply it to data. In the future this will also be matched with a jet fragmentation calculation.
- (b) The Duke Recombination Model has never been applied to energies and systems other than Au+Au at 200 GeV. Experimental collaborations have repeatedly asked for results from recombination models for lower energies, even down to the SPS region. This region is currently explored within the classical Duke Recombination Model and first results are to be expected soon.

[1] R. J. Fries, B. Muller, C. Nonaka, and S. A. Bass, Phys. Rev. Lett. **90**, 202303 (2003).