

Decelerating Partons and Accelerating Science with SM

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Long before first relativistic CERN-SPS heavy ion collision experiments we have seen models of what may happen to colliding nuclei, with theorists arguing different extreme scenarios: parton transparency, and parton stopping. Similarly we argued about the related mechanism of entropy formation. Today 30 years have passed and these questions continue to be discussed with the same fervor. What this means is that we lack in understanding of how it happens that we generate a fireball of hot and dense parton matter where many had expected two “cooked” nuclei to emerge. Across several science frontiers of the SM I see that the process of Bremstrahlung and radiation reaction that was invoked by SM remains an interesting functional simple idea which may help characterize parton deceleration and fireball formation.

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