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Title: On optimal control approaches in pedestrian dynamics

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Abstract: The complex behavior of large pedestrian groups has always fascinated researchers from various scientific fields. There is an extensive literature on mathematical models describing the individual dynamics on different scales. In optimal control approaches individuals find the optimal path to their goal by minimizing a certain cost functional. In this talk we discuss different choices of cost functionals modelling fast exit scenarios and the connection of optimal control approaches to the Hughes model for pedestrian flow. Furthermore we present a space-time method to solve the corresponding optimal control problems efficiently and illustrate the crowd dynamics with numerical simulations.