

# Pozvánka na přednášku

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## Exponential growth, exponential scaling, and the discontinuous Galerkin method

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### **Anotace:**

When estimating the time growth of solutions of differential equations, Gronwall's lemma is a standard tool. Its disadvantage is exponential growth of the resulting estimates with respect to time. In some cases, this can be circumvented by using more refined arguments. We present an analysis of the time growth of the error of the discontinuous Galerkin method applied to advection problems. Using an exponential scaling argument, we obtain estimates which are exponential not in time, but in the time particles carried by the flow spend in the spatial domain. In many situations, this is uniformly bounded, leading to uniform bounds on the error even on infinite time intervals.