# IDOS - (also) a Web Based Tool for Calibrating Modelica Models

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This paper presents a newly deployed server, IDOS, an online-accessible environment providing the service of solving optimal control problems ([2],[3],[5]). Development and deployment of the Interactive Dynamic Optimization Server is a result of projects funded by NCBiR (National Center for Research and Development). One of the outcomes of the project was a modeling language (Dynamic Optimization Modeling Language, DOML) providing a uniform format for defining dynamic optimization problems. DOML is an extension of Modelica language ([4]) and hence, not only a user can specify his problem in the way he does in Modelica but also (more importantly, for the purpose of this paper) models created in Modelica for simulation purposes can be easily transferred to DOML for solving their related optimization problems. In particular, Modelica models can be calibrated with the help of our server. The paper tries to illustrate the point in depth. It presents the workings of the server and reviews the scope of solvers implemented, focusing especially on those that can be used for calibrating Modelica models. Special attention is devoted to an algorithm using adjoint equations for evaluating sensitivities of model equations with respect to parameters and to calibrating models described by higher index DAEs ([1]).

## References

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