## Sparsity-Inducing Optimal Control via Differential Dynamic Programming

Traiko Dinev\*,1, Wolfgang Merkt\*,2, Vladimir Ivan1, Ioannis Havoutis2, and Sethu Vijayakumar1

1 Edinburgh Centre for Robotics, The University of Edinburgh, UK

2 Oxford Robotics Institute, University of Oxford, UK

We introduce sparsity-inducing costs to a Differential Dynamic Programming solver.

- We study the effects of sparsity on a cartpole.
- We demonstrate the use of sparsity for satellite thruster control.
- We show an application of sparsity for humanoid joint selection.



SSL-1300 satellite model. We use sparsity costs for thruster control