

model does not fit into the decomposition framework of a contact point based tire model [1] some other common framework for interfacing to other tire model is imaginable: Any tire model providing some API will have comparable tasks like reading data files or doing the force calculation. So above the CTI specific interface level a new tire model independent interface level may be established branching to the CTI routines or the counter-parts of some other tire model. In this case it ought to be possible to implement the embedding into the MultiBody framework independently from the FTire model but only accessing the tire model intermediate interface level.

12 Acknowledgements

The FTire (FTire interface for Dymola), FTireVDL (FTire tires in the VehicleDynamics package framework) and the FTireSimVis (FTire tires and roads visualized with the SimVis program) packages and the used geometry visualization package Visualizers have been developed as part of the ITEA2 **Eurosyslib** project (WP 8.5).

Earlier versions of the FTire interface package have been intensively tested in a diploma thesis [10] on a model of Kämmerer's side car vehicle "mython" [11] and at Dassault Aviation [12] with aircraft models. The package benefitted much from the reported bugs and suggestions for improvements.

References

- [1] ANDRES, Markus, ZIMMER, Dirk and CELLIER, François E.: Object-Oriented Decomposition of Tire Characteristics Based on Semi-Empirical Models. Proceedings of the 7th Modelica Conference, Como, Italy, 2009
- [2] The FTire homepage: www.cosin.eu/prod_FTire
- [3] The CTI reference document: www.cosin.eu/res/cti.pdf
- [4] The Visualization package product page: www.bausch-gall.de/vi1.htm
- [5] The VehicleDynamics package product flyer: www.modelon.se/DATAUPLOAD/File/Flyer_dymola_VDL_Car.pdf
- [6] DRENTH, Edo, GÄFVERT, Magnus: Modelica Delft-Tyre Interface. Proceedings of the 8th Modelica Conference, Dresden, Germany, 2011
- [7] BELLMANN, Tobias: Interactive Simulations and Advanced Visualizazion with Modelica. Proceedings of the 7th Modelica Conference, Como, Italy, 2009
- [8] Modelica 3.2 Language Specification, 12.4.2, Modelica Association, March 2010, www.modelica.org/documents/ModelicaSpec32.pdf
- [9] Functional Mock-Up Interface for Co-Simulation. Modelisar (07006). Document version 1.0, October 12th, 2010
- [10] ZAPF, Stefan: Aufbau und Validierung des Gesamtfahrzeug-Mehrkörpersimulationsmodells mit einem Hochfrequenzreifenmodell im Programmsystem Dymola, diploma thesis, Amberg, Germany, 2009.
- [11] The "mython" at Kämmerer's homepage: www.kaemmerer-group.com/mython/
- [12] THOMAS, Eric and LAPEYRE, Arnaud: DTG 121069 FTire Model-Evaluation Report (*unpublished*), 2010
- [13] www.itea2.org/public/project_leaflets/EUROSYSLIB_profile_oct-07.pdf