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OWL 2 Rules (Part 2)

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References and Pointers

- See http://semantic-web-grundlagen.de/wiki/ESWC09_Tutorial for the complete set of slides, and for links to references.

Main References:

- Markus Krötzsch, Sebastian Rudolph, Pascal Hitzler, Description Logic Rules. In Malik Ghallab, Constantine D. Spyropoulos, Nikos Fakotakis, Nikos Avouris, eds.: Proceedings of the 18th European Conference on Artificial Intelligence (**ECAI-08**), pp. 80–84. IOS Press 2008.
- Markus Krötzsch, Sebastian Rudolph, Pascal Hitzler, ELP: Tractable Rules for OWL 2. In Amit Sheth, Steffen Staab, Mike Dean, Massimo Paolucci, Diana Maynard, Timothy Finin, Krishnaprasad Thirunarayan, eds.: Proceedings of the 7th International Semantic Web Conference (**ISWC-08**), pp. 649–664. Springer 2008.

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