

- FEDERICO FAROLDI, ATEFEH ROHANI, AND THOMAS STUDER, *Conditional obligations in justification logic*.

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Standard deontic logic faces problems in representing conditional and contrary-to-duty obligations, such as those formulized by the well-known Chisholm's puzzle. However, dyadic deontic logic overcome this puzzle by introducing dyadic obligations [6]. Since justification logics [1, 5] have successful background in deontic contexts [3, 2], we present a justification counterpart for dyadic deontic logic. Firstly, the alethic-deontic system \mathbf{E} is considered [4], and then an explicit version of this system, \mathbf{JE} is introduced by replacing the alethic \Box -modality with proof terms and dyadic deontic \bigcirc -modality with justification terms [7]. Notably, the explicit representation of strong factual detachment (SFD) is given and finally, soundness and completeness of system \mathbf{JE} with respect to basic models and preference models is established.

[1] S. ARTEMOV AND M. FITTING, *Justification Logic: Reasoning with Reasons*, Cambridge Tracts in Mathematics, Cambridge University Press 2019.

[2] F. FAROLDI, *Hyperintensionality and Normativity*, Springer, 2019.

[3] F. FAROLDI, M. GHARI, E. LEHMANN, AND T. STUDER, *Consistency and permission in deontic justification logic*, *Journal of Logic and Computation*, 2022.

[4] D. GABBAY, J. HORTY, X. PARENT, R. VAN DER MEYDEN AND L. VAN DER TORRE, *Handbook of Deontic Logic and Normative System*, Volume 2, College Publications, 2021.

[5] R. KUZNETS AND T. STUDER, *Logics of Proofs and Justifications*, Studies in logic, College Publications, 2019.

[6] X. PARENT AND L. VAN DER TORRE, *Introduction to Deontic Logic and Normative Systems*, Texts in logic and reasoning, College Publications, 2018.

[7] A. ROHANI AND T. STUDER, *Explicit Non-normal Modal Logic*, *Journal of Logic and Computation*, in print.