Uniform interpolation via an open mapping theorem for Esakia spaces

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We prove an open mapping theorem for the topological spaces dual to finitely presented Heyting algebras. This yields in particular a short, self-contained semantic proof of the uniform interpolation theorem for intuitionistic propositional logic, first proved by Pitts in 1992. Our proof is based on the methods of Ghilardi & Zawadowski. However, our proof does not require sheaves nor games, only basic duality theory for Heyting algebras.

Reference:

S. J. v. Gool and L. Reggio, An open mapping theorem for finitely copresented Esakia spaces, Topology and its Applications, vol. 240, 69-77 (2018).