Contributions to the structure theory of ω-languages

Overview

1. (regular) $*$-languages
2. $\mathcal{L}^* \to \mathcal{L}^\omega$ operators
3. Some results about ω-languages

$*$-languages

1. ...

Some results

1. $\mathrm{BC}\,\mathrm{ext}\,\mathcal{L}^*(\text{piece-wise testable}) = \mathrm{BC}\,\mathrm{lim}\,\mathcal{L}^*(\text{piece-wise testable})$
2. $\mathcal{L}^\omega(\mathrm{FO}[+1]) = \mathrm{BC}\,\mathrm{ext}\,\mathcal{L}^*(\mathrm{FO}[+1])$
3. $\mathcal{L}^\omega(\mathrm{FO}[<]) = \mathrm{BC}\,\mathrm{lim}\,\mathcal{L}^*(\mathrm{FO}[<])$
4. $\mathrm{BC}\,\mathrm{ext}\,\mathcal{L}^*(\mathrm{FO}[<]) \subsetneqq \mathrm{BC}\,\mathrm{lim}\,\mathcal{L}^*(\mathrm{FO}[<])$
5. $\mathrm{BC}\,\mathrm{ext}\,\mathcal{L}^*(\text{locally testable}) \subsetneqq \mathrm{BC}\,\mathrm{lim}\,\mathcal{L}^*(\text{locally testable})$
6. $\mathrm{BC}\,\mathrm{ext}\,\mathcal{L}^*(\text{pos-PT}) = \mathrm{BC}\,\mathrm{lim}\,\mathcal{L}^*(\text{pos-PT})$
7. $\mathrm{BC}\,\mathrm{ext}\,\mathcal{L}^*(\text{pos-PT}) = \mathrm{BC}\,\mathrm{ext}\,\mathcal{L}^*(\mathrm{PT})$