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A Dynamical Model of an Aeration Plant for Wastewater Treatment using a Phenomenological based Semi-physical Modeling Methodology

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Highlights

- A control-oriented model by using a phenomenological based modeling methodology.
- Poor consensus to describe the mass transfer from gas to liquid phases was shown.
- Model interpretability is reached with a careful choice of constitutive equations.
- Phenomenological models for achieved better fits than empirical correlations.
- An oxygen scavenger allowed the emulation of microorganism respiration.

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