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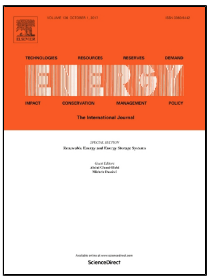

Modeling and performance analysis of twin-screw steam expander under fluctuating operating conditions in steam pipeline pressure energy recovery applications

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Highlight：

>A thermodynamic model is developed for twin-screw steam expander.

>Suction pressure loss as well as leakage and heat transfer is taken into account.

> Filling factor varies from 0.82 - 0.88 and isentropic efficiency is 0.73 - 0.83.

> Suction pressure loss is mainly affected by rotational speed.

> Rotational speed adjustment is the most efficient way for capacity regulation.

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