

Form of Written Discussion at the 26th ITTC Conference

Discusser:	
Name	Jinbao Wang
Affiliation	MARIC

Name of Technical Committee or Group to be discussed	Propulsion Committee
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Written Discussion (within 1,000 words of length):

EEDI will take effect soon and energy-saving devices (ESD) might be helpful to reduce delivered power. My question is: When ESD is included (say Mewis Duct), do you follow the same procedure to correlate model result to full-scale? And, if ESD is considered, do you use the same input for propulsor design or you have to redesign the propulsor? Thank you!

Answer:

There are a wide variety of ESD and therefore no general correlation method can be given. For some selected cases, guidelines were given by the Specialist Committee on Unconventional Propellers of the 22nd ITTC. You can follow them or adopt them for other cases respectively.

The same is valid for the propulsor design. For Mewis duct normally the same propeller design can be used since the rpm change is relatively small. But for other kinds of ESD the wake scaling procedure must be validated to update the propeller design, for instance for pre-swirl devices or wake equalizing ducts.