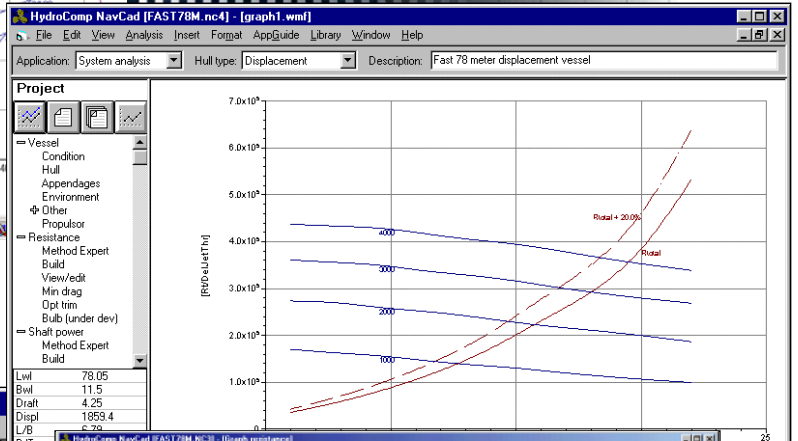
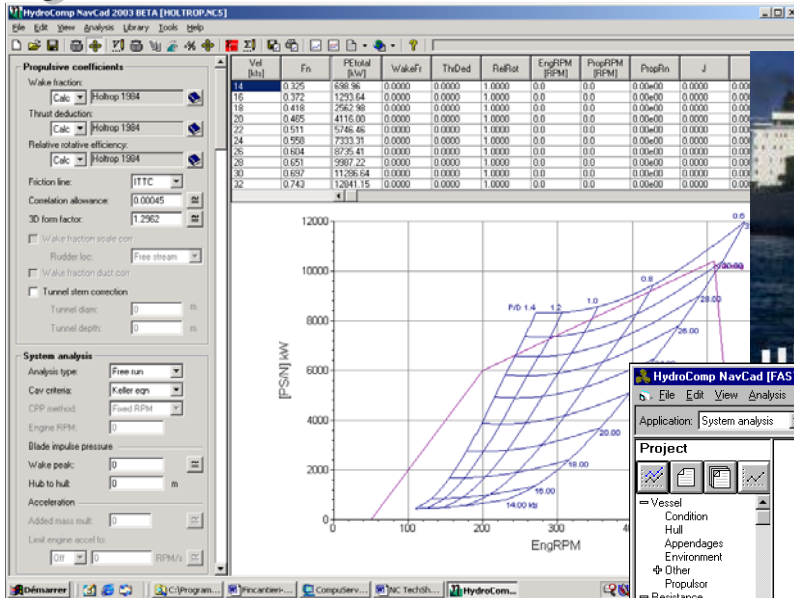


**SMM 2004
Booth # 313
Upper Floor Hall 1**

NavCad

PARAMETRIC HULL RESISTANCE * PROPELLER PERFORMANCE
HULL-PROPULSOR-ENGINE BALANCE

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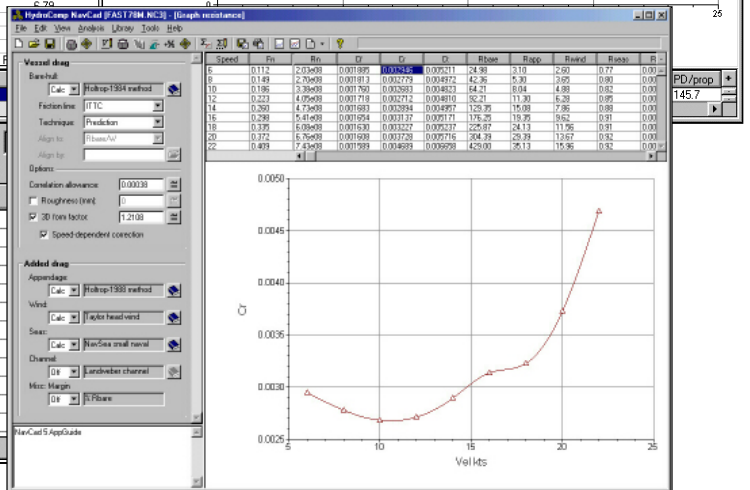


Minimum hull drag analysis

Method: Holtrop-1984 method Prediction TTC Prim: Speed

Parent	Lwl	Bwl	Draft	LCB/L	Cx	Cw	At/Ax
Min:	78.05	11.50	4.25	0.5051	0.7710	0.7650	0.3926
Max:	78.00	11.20	0.00	0.0000	0.0000	0.0000	0.1000
Inc:	80.00	11.50	0.00	0.0000	0.0000	0.0000	0.4000
	0.20	0.10	1.00	1.0000	1.0000	1.0000	0.0500

	Lwl	Bwl	Draft	LCB/L	Cx	Cw	At/Ax	+%P	+%S
Sort	80.00	11.20	4.25	0.4927	0.7710	0.7650	0.1500	-11.22	-20.16
Report	80.00	11.30	4.25	0.4927	0.7710	0.7650	0.1500	-10.83	-20.39
Check	79.80	11.20	4.25	0.4940	0.7710	0.7650	0.1500	-10.73	-19.88
	80.00	11.40	4.25	0.4927	0.7710	0.7650	0.1500	-10.45	-20.59
	79.80	11.30	4.25	0.4940	0.7710	0.7650	0.1500	-10.35	-20.11
	80.00	11.20	4.25	0.4927	0.7710	0.7650	0.2000	-10.39	-16.85
	79.60	11.20	4.25	0.4952	0.7710	0.7650	0.1500	-10.24	-19.59
	80.00	11.50	4.25	0.4927	0.7710	0.7650	0.1500	-10.07	-20.77
	79.80	11.40	4.25	0.4940	0.7710	0.7650	0.1500	-9.96	-20.32
	80.00	11.20	4.25	0.4927	0.7710	0.7650	0.1000	-9.82	-23.13
	80.00	11.30	4.25	0.4927	0.7710	0.7650	0.2000	-10.00	-17.01
	79.60	11.30	4.25	0.4952	0.7710	0.7650	0.1500	-9.85	-19.83



- PROGRAMMING LANGUAGE * AZIMUTING THRUSTERS
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NavCad

PARAMETRIC HULL RESISTANCE ✪ PROPELLER PERFORMANCE
HULL-PROPULSOR-ENGINE BALANCE

by HydroComp Inc.
www.hydrocompinc.com

NavCad™ is the most powerful and versatile tool offering an integrated platform to predict resistance & power, and to determine optimum propeller parameters. **NavCad™** is used by naval architects, marine engineers, hydrodynamicists and researchers in shipyards, design bureaux, equipment manufacturers, navies and research institutions.

NavCad™ can be used to evaluate virtually every type of displacement, semi-displacement and planing craft, river barge, sailboat and catamaran. Towing and free-running analyses are supported, as are open and ducted, surface-piercing and cycloidal propellers, as well as water-jets.

NavCad™ is unlike any resistance and propeller program offered by other developers. Not limited to a few routines for the prediction of one or two aspects of performance, **NavCad™** provides a complete platform for the steady-state equilibrium analysis of performance from hull to engine. Features such as the minimum hull drag analysis and multi-objective propeller selection provide designers with powerful tools to optimise hull forms and propellers.

NavCad™ includes several features:

- Squat effect calculation
- Acceleration analysis
- Under-hull clearance estimation
- **Catamaran hull resistance (planning and displacement), hull interference calculations**
- Optimum trim analysis
- Expression of added drags as percentages of bare-hull drag
- Minimum drag analysis
- Blade impulse pressure
- Advanced propulsors
- Project management: file use monitoring
- Waterjet propulsion
- Surface piercing propellers
- Cycloidal propellers
- Sinkage & Trim due to squat
- Azimuthing Thrusters

NavCad™ is used to compute hull resistance, propeller performance and hull-propulsor-engine equilibrium for:

- Displacement hulls
- Semi-displacement / semi-planing hulls
- Planing hulls
- Catamaran hulls (planning & displacement)
- Barges and barge trains
- Sailing hulls
- B-series
- Gawn-Burril
- Kaplan
- Cycloidal
- Water Jets
- Surface piercing
- Custom KtKq

HydroComp also regularly releases Technical Reports. Following is a short list of recently released ones:

- Analysis of Dissimilar Engine-Gear-Propeller Systems with PropExpert
- Analysis of Vessel Acceleration with NavCad
- Waterjet Data Files for NavCad
- Predicting Resistance and Power for an Integrated Tug/Barge Using NavCad
- Definition of Section Offsets in PropCad
- Typical WorkBoat Rudder and Propeller Placement
- When Does Shallow Water Become a Problem?
- Approximating a Fillet Radius Onto a Cylindrical Hub in PropCad
- Demonstrating the Effect of Vessel Weight Change with PropExpert
- Modelling Tractor-style Azimuthing Podded Drives

HydroComp Inc. provides software products and consulting services for the performance analysis and design of marine vehicles to industry, research and government clients. Over 450 marine professionals use HydroComp software today.

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