

Hull form design and fairing: tradition restored

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ABSTRACT

The traditional approach of the design of lines of the ship is based upon sections lying in mainly orthogonal planes. Fairness and coherence was maintained and judged by a human designer, partly in a heuristic way. Contemporary CAD methods which follow this traditional approach are inefficient, because they lack heuristics. CAD methods which are based upon state-of-the-art mathematical formulae for surface modeling, such as B-splines or NURBS, cannot handle sections lying strictly in orthogonal planes. Due to the inflexibility they are unsuitable for production fairing. After a discussion of popular computer methods, the new hullform modeling program "Fairway" will be described. The Fairway approach is demonstrated in an example, and subsequently hull forms designed and faired with Fairway are presented, showing that with Fairway on the subject of hull design there is only one constraint left: The human imagination and skill.