

Ship hull form generation (in Dutch “Scheepsvormgeneratie”)

Published on January 11, 1985

This 1985 Msc. thesis by H.J. Koelman reports on an early application of B-spline surface for ship hull modelling. In those days, the mid-eighties, the B-spline and related NURBS method gained wide popularity for curve and surface representation, and where soon applied in computer programs for ship hull design. The program described in this thesis was one of those. The applied methodology was to apply B-spline surfaces for skinning/lofting of cross sections. Bow and stern regions could be modelled by extending the lofting surface over centerline, and subsequently cutting off that portion by a Boolean operation with the centerline plane.

This program was available to PIAS users under the – in hindsight not very applicable – name “hull form generation module”. Although the B-spline modelling method certainly had its strength, gradually also some disadvantages became apparent. The first report on that was included in a [1997 IMDC conference paper](#). After years of research and development a more adequate and versatile modelling method has been developed, and implemented in PIAS’ Fairway module, on which multiple papers can be found in this website section. When Fairway came into maturity it was time to throw the old spline surface-based “hullform generation” in the trash bin.

