

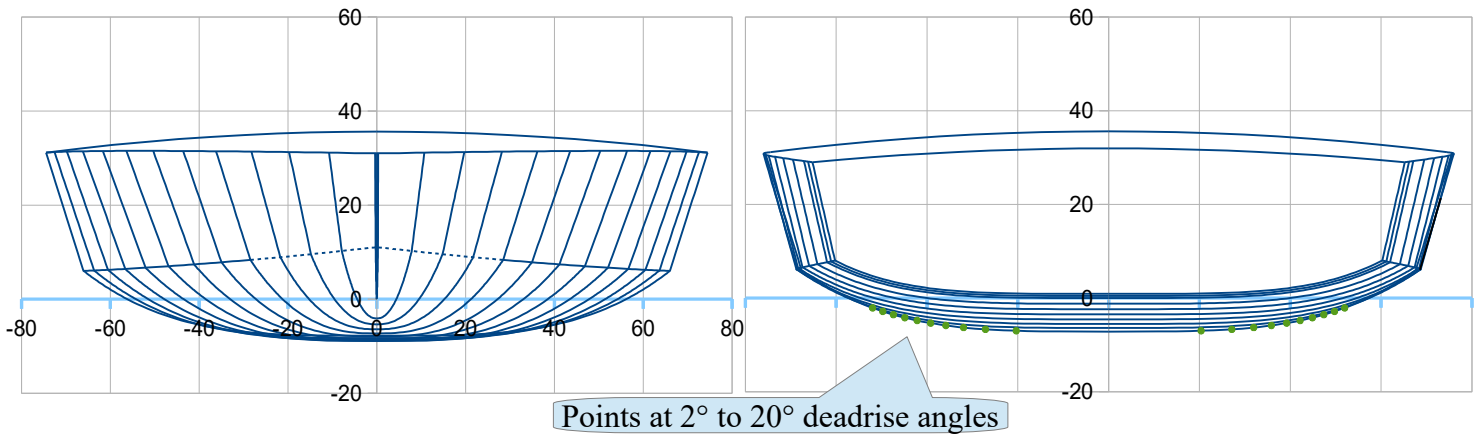
Sailing Dinghy – For hull lines representation more adapted to the planing mode

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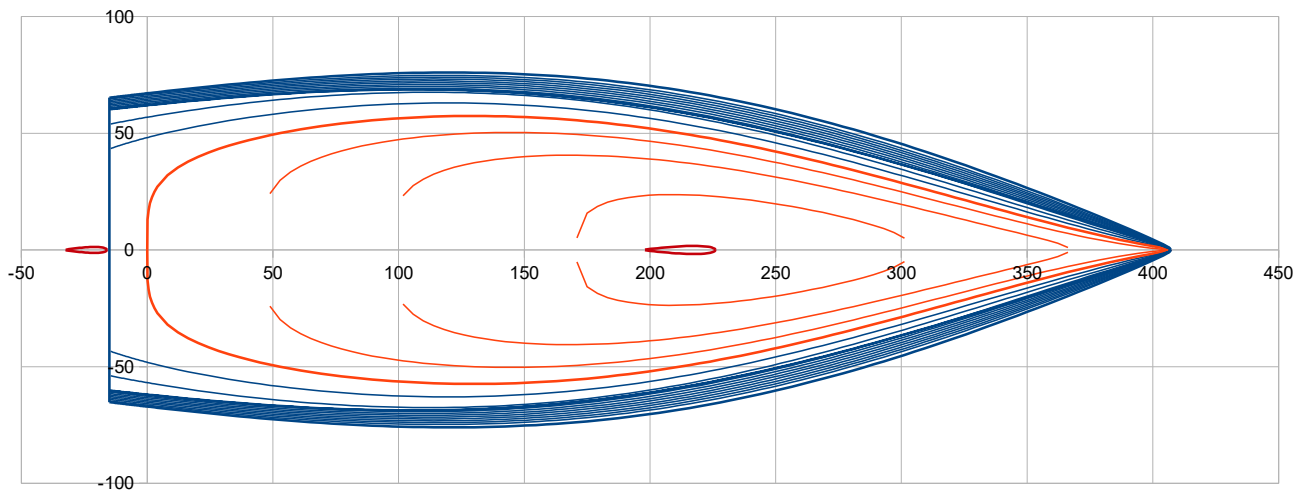
jfcmasset@outlook.fr

The hull standard representation with the waterlines at various heights is informative for the displacement mode at low speed but not much for the skimming mode on the water surface. The dynamic lift being a lot in relation with the deadrise angulation within each sections, I found useful to add the « deadrise » lines, i.e. the lines joining the points of the sections sharing the same local « deadrise » angle : 2° , 4° , 6° , etc..., 20° .

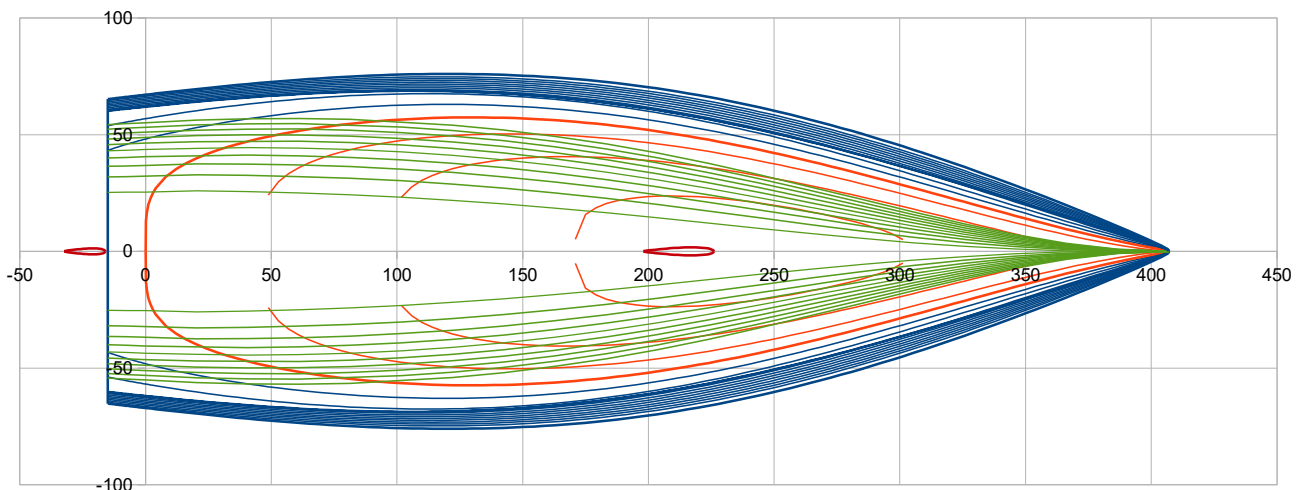
Example 1 with U-shaped sections :



The standard representation of the bottom view, with in red the wetted waterlines at various depths :



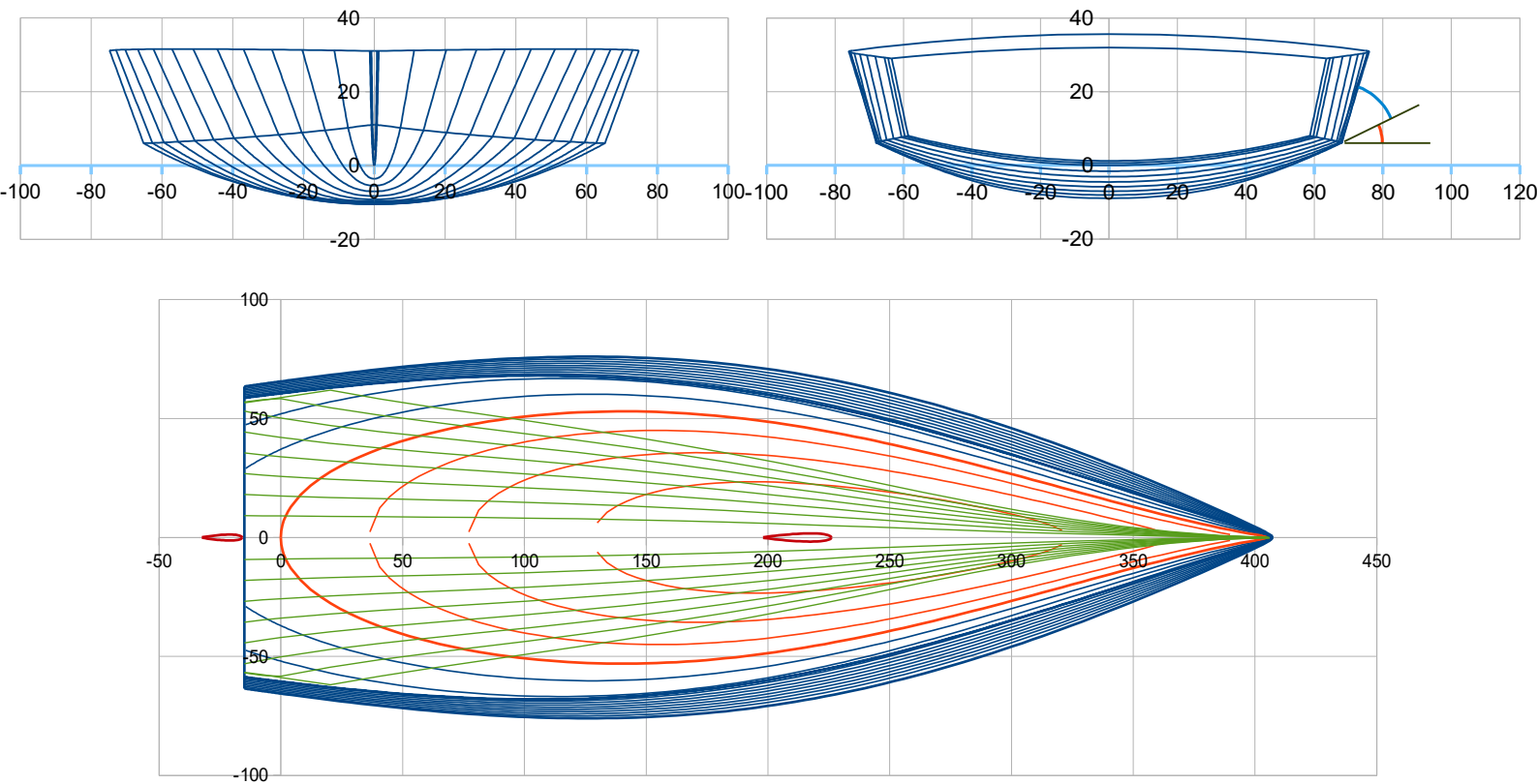
The bottom view completed with in green the deadrise lines, from 2° to 20° angles :



>>> This representation, especially showing the shape of the central flatness (transversal angles $< 2^\circ$) from the pointy bow to the aft transom, makes easier to guess how the planing mode can occur and progress.

>>> Also the fact that these lines, in this example, can exit at transom parallel to the center line : to note that this is possible without the need to have also the maximum wide of the hard chine line at the transom, in the example this maximum wide is at $\sim 30\%$ L.

Example 2 with rounded-shaped sections :



>>> The deadrise lines are then very different, at first showing no significative central flatness and secondly diverging at their exit. One can guess that such hull has less capacity to initiate a planing mode and to sustain it at high speed.