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Title: Homaloidal nets and ideals of fat points

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Abstract: We consider plane Cremona maps with proper base points and the base ideal generated by the linear system of forms defining the map. The object of this work is to study the interweave between the algebraic properties of the base ideal and those of the ideal of these points fattened by the virtual multiplicities arising from the linear system. We reveal conditions which naturally regulate this association, with particular emphasis on the homological side. While most classical numerical inequalities concern the three highest virtual multiplicities, here we emphasize also the role of one single highest multiplicity. In this vein we describe classes of Cremona maps for large and small values of the highest virtual multiplicity. We also deal with the delicate question as to when is the base ideal non-saturated and consider the structure of its saturation.