

We will start with a brief introduction to topology of real algebraic curves, and then will discuss in more details the case of curves of degree 6 in the real projective plane. We will show that the equisingular deformation type of a simple real plane sextic curve with smooth real part is determined by its real homological type, that is, the polarization, exceptional divisors, and real structure recorded in the homology of the covering K3-surface (this is a joint work with Alex Degtyarev).