Irregular covers of K3 surfaces

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The K3 surfaces are regular surfaces. They can be covered by irregular surfaces in several ways and the easiest example is given by the abelian surfaces: these often appear as the minimal model of Galois covers of K3 surfaces for several Galois group (e.g. all the Abelian surfaces are birational to the double cover of their Kummer surfaces).

Nevertheless is considerably more difficult to obtain an irregular cover of a K3 surface which is a surface of general type.

During the talk we discuss the construction of irregular covers of K3 surfaces, obtaining both surfaces with Kodaira dimension 1 and 2. In particular we focus our attention to the covers of order 2 and 3 (the latter not necessarly Galois).