Hirzebruch systems and swallowtails

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In this talk, I will summarize some results from the literature, which will form the basis of my thesis next year. First, I will consider the definitions of integrable systems, non-degenerate singularities and semitoric systems. Then I introduce semitoric families and semitoric transition families. We look at some properties and examples. Next, I define Hirzebruch surfaces and discuss some examples of semitoric (transition) families on Hirzebruch surfaces. Finally, I will explain the concept of a swallowtail and conclude with a final example of a Hirzebruch system with a swallowtail.