Quasiconformal mappings and function spaces

Abstract:
In the Euclidean setting, quasiconformal mappings preserve the borderline Sobolev space consisting of functions with n-integrable gradients, where $n>1$ is the dimension of the underlying space. This invariance property could actually be taken as the definition. The essential properties from the Euclidean setting are Ahlfors regularity and the borderline Poincare inequality. Under these assumptions one may extend the above to the setting of complete metric spaces. Somewhat surprisingly, the invariance of suitable Triebel-Lizorkin spaces also holds in this generality. The main emphasis will be in the definitions of the function spaces in question.