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**Ewa Kozłowska-Walania\***, Bazynskiego 8, 80-309 Gdansk, Poland. *Extremal Riemann surfaces and their properties.*

A Riemann surface shall be called *extremal* if it admits the maximal possible number of symmetries or if it admits the maximal number of ovals for a set of non-conjugate symmetries with ovals. These cases are to be called *s*-extremal and *o*-extremal respectively. We shall present a variety of recent results concerning such surfaces, in particular we show the structure of the automorphism group in both *s*- and *o*-extremal case and find all the possible topological types of commuting symmetries together with their defining equations in an *o*-extremal configuration. Special attention shall be paid to the surfaces of even genera and in particular the so-called *button-like* surfaces, being unique both *s*- and *o*-extremal surfaces of genus  $g = 4k, k \geq 1$  with a non-abelian automorphism group. (Received January 23, 2020)