

EXPLICIT MINIMAL SCHERK SADDLE TOWERS OF ARBITRARY EVEN GENERA IN \mathbb{R}^3

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Abstract: Starting from works by Scherk (1835) and by Enneper–Weierstraß (1863), new minimal surfaces with Scherk ends were found only in 1988 by Karcher (see [9, 10]). In the singly periodic case, Karcher’s examples of positive genera had been unique until Traizet obtained new ones in 1996 (see [23]). However, Traizet’s construction is implicit and excludes *towers*, namely the desingularisation of more than two concurrent planes. Then, new explicit towers were found only in 2006 by Martín and Ramos Batista (see [13]), all of them with genus one. For genus two, the first such towers were constructed in 2010 (see [22]). Back to 2009, implicit towers of arbitrary genera were found in [5]. In our present work we obtain *explicit* minimal Scherk saddle towers, for any given genus $2k$, $k \geq 3$.

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