

**Collin, Pascal; Rosenberg, Harold**

**Construction of harmonic diffeomorphisms and minimal graphs.** (English) Zbl 1209.53010

Ann. Math. (2) 172, No. 3, 1879-1906 (2010).

The paper constructs harmonic diffeomorphisms from  $\mathbb{C}$  onto  $\mathbb{H}$ . The authors use entire minimal graphs to construct such examples. The constructions are used within a general study of complete minimal graphs in  $\mathbb{H} \times \mathbb{R}$ , which take asymptotic boundary values plus and minus infinity on alternating sides of an ideal inscribed polygon in  $\mathbb{H}$ . A diffeomorphism from  $\mathbb{C}$  onto  $\mathbb{H}$  is constructed based on a certain entire minimal graph  $\mathbb{H} \times \mathbb{R}$ , which disproves a conjecture of Schoen and Yau.

Reviewer: [Magdalena Daniela Toda \(Lubbock\)](#)

**MSC:**

**53A10** Minimal surfaces in differential geometry, surfaces with prescribed mean curvature

**53C43** Differential geometric aspects of harmonic maps

Cited in **3** Reviews  
Cited in **38** Documents

**Keywords:**

[minimal surfaces](#); [minimal graphs](#); [harmonic maps](#)

**Full Text:** [DOI](#)

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