Mathematics > Complex Variables

Constraints on hypothetical counterexamples to the Casas-Alvero conjecture

Robert Laterveer, Myriam Ounaies

(Submitted on 2 Apr 2012)

The Casas-Alvero conjecture states: if a complex univariate polynomial has a common root with each of its derivatives, then it has a unique root. We show that hypothetical counterexamples must have at least 5 different roots. The first case where the conjecture is not known is in degree 12. We study the case of degree 12, and more generally degree p+1, where p is a prime number. While we don't come closing to solving the conjecture in degree 12, we present several further constraints that counterexamples would have to satisfy.

Subjects:	**Complex Variables (math.CV)**
MSC classes:	30C15, 30E99, 12D99
Cite as:	**arXiv:1204.0450v1 [math.CV]**

Submission history

From: Ounaies Myriam [view email]
[v1] Mon, 2 Apr 2012 16:09:49 GMT (11kb)

Which authors of this paper are endorsers?