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On Melham's Sum,
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Abstract

The sum $L_1 \cdots L_{2m+1} \sum_{k=1}^n F_{2k}^{2m+1}$ was first considered by Melham. He noticed that for small m it could be expressed as a polynomial in F_{2n+1} . In this paper we give an explicit expansion for Melham's sum as a polynomial in F_{2n+1} .