Surfaces with $p_g = q = 2$, $K^2 = 6$, and Albanese Map of Degree 2
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Abstract. We classify minimal surfaces of general type with $p_g = q = 2$ and $K^2 = 6$ whose Albanese map is a generically finite double cover. We show that the corresponding moduli space is the disjoint union of three generically smooth irreducible components $\mathcal{M}_{Ia}$, $\mathcal{M}_{Ib}$, $\mathcal{M}_{II}$ of dimension 4, 4, 3, respectively.