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William Franklin Trok* (william.trok@uky.edu), University of Kentucky, 715 Patterson Office Tower, Lexington, KY 40506. *Unexpected Hypersurfaces through points in P^n .*

Given a finite collection of points Z , we say Z admits unexpected hypersurfaces if the intersection of the ideal $I(Z)$ and $I(mQ)$ where Q is a generic linear subspace is larger than expected. We show that this problem can be studied by looking at the derivation bundle of the hyperplane arrangement, $A(Z)$, which is dual to the sets of points Z . (Received January 29, 2019)