Numbers for foliations with higher singularities

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A general holomorphic foliation of degree d in $\mathbb{C}P^2$ has d^2+d+1 singularities all non-degenerate. We address the question of finding the degrees of the loci of foliations with higher and/or special singularities e.g. radial singularities -these occur in codimension 3. We also study the situation in the presence of an invariant curve. Joint with Viviana Ferrer.