# Eigenvalue estimates for a class of elliptic differential operators in divergence form

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**Abstract.** In this work we compute estimates for eigenvalues of a class of linear second-order elliptic differential operators in divergence form (with Dirichlet boundary condition) on a bounded domain in a complete Riemannian manifold. Our estimates are based upon the Weyl's asymptotic formula. As an application, we find a lower bound for the mean of the first $k$ eigenvalues of the drifting Laplacian. In particular, we have extended for this operator a partial solution given by Cheng and Yang for the generalized conjecture of Polya. We also derive a second-Yang type inequality due to Chen and Cheng, and other two inequalities which generalize results by Cheng and Yang obtained for a domain in the unit sphere and for a domain in the projective space.