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

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Resumo/Abstract:
In this paper we derive estimates for eigenvalues of a class of second-order linear elliptic differential operators in divergence form. In all the cases, we assume the Dirichlet boundary condition in a domain of a n-dimensional Riemannian manifold. Our estimates are based upon the Weyl asymptotic formula. Furthermore, using Nash's theorem we obtain universal inequalities. In particular, for the drifting Laplacian we establish Yang-type inequalities, an upper bound for $(k+1)$–eigenvalue and an inequality related to the conjecture of Pólya.

References

[1] J.F.R. MIRANDA, Uma nova forma aberta do princpio do mximo fraco e estimativas de autovalores para uma classe de operadores diferenciais elpticos. Tese de Doutorado, Universidade Federal do Amazonas, Manaus, (2015).