On the crossing limit cycles for piecewise linear differential systems separated by a straight line and having symmetric equilibrium points

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The objective of this work is to study the maximum number of crossing limit cycles that can have the planar piecewise linear differential systems separated by a straight line Σ and formed by two linear differential systems X^-, X^+ which singularities are symmetrical with respect to the straight line of discontinuity Σ and which can be real or virtual. Here we provide lower or upper bounds for the maximum number of crossing limit cycles for each case. This presentation is divided in three parts, first we introduce some basic concepts, results, and tools necessary to the development of this work. Subsequently the main results are presented and finally some examples are illustrated.

Bibliography

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