DISCONTINUITIES OF MONOTONIC FUNCTIONS

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In this paper it is shown that the set of discontinuties of a monotonic function on a closed and bounded subset of R is finite under certain conditions and extension of this result is also given.

INTRODUCTION

In the Newton's Law of universal gravitation, every mass m_1 attracts every other mass m_2 in the universe with a force

$$F = G \frac{m_1 m_2}{r^2} \hat{r}$$

where $\hat{r}$ is a unit vector from m_1 to m_2 and G is a constant having the value 6.67×10^{-8} dyne-cm^2/g^2m or 6.67×10^{-11} newton-m^2/kg^2.

As we know from this law, the force F is inversly proportional to the square of the distance between the two massess. As the distance becomes samller and samller the force of attraction becomes larger and larger, and when the distance becomes negligibally small, the two bodies will collide. Keeping inview the idea of universal gravitation a new function, "magnetic function" is defined.

MAGNETIC FUNCTION

A function f from a metric space (X,d) to a metric space (Y,d) is called magnetic function, if given $\alpha \in (0,1)$ s.t. $d(f(x),f(y)) < \alpha$ implies $f(x) = f(y)$ for $x,y \in X$.