



KURT GÖDEL RESEARCH CENTER FOR  
MATHEMATICAL LOGIC

UNIVERSITÄT WIEN

1090 WIEN, WÄHRINGER STRASSE 25

O.UNIV.-PROF. DR. SY-DAVID FRIEDMAN



INVITATION

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THE DENSITY FUNCTION: SOME REMARKS, RESULTS, AND  
OPEN PROBLEMS

Abstract:

Given a Radon metric space  $(X, d, \mu)$  and a measurable  $A \subseteq X$ , the *density function* associated with  $A$  is the (partial) function on  $X$  defined by

$$\mathcal{D}_A(x) = \lim_{\varepsilon \rightarrow 0^+} \frac{\mu(A \cap \mathcal{B}_\varepsilon(x))}{\mu(\mathcal{B}_\varepsilon(x))}$$

where  $\mathcal{B}_\varepsilon(x)$  is the open ball centered at  $x$  of radius  $\varepsilon$ .

I will discuss properties of this function relevant to descriptive set theory, especially for Cantor space and the real line, together with some open questions.

Most results are joint work with A. Andretta and C. Costantini.

THURSDAY, JANUARY 12, 2017

Tea at 3:30pm in the KGRC meeting room (room 104)

Talk at 4:00pm in the KGRC lecture room (room 101)

GÖDEL RESEARCH CENTER

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