

## Response to referee A on critical remarks.

1. The philosophical part of the introduction is completely removed. The second and third paragraphs are new. They shortly describe the idea of the proposed method and its advantages.
2. The quick review on categories is saved and it is joined with the next subsection on multimetric spaces.
3. The style on what *invariant is* is changed.
4. The final sentence of section 2.2 is deleted, as suggested. Subsections 2.1 and 2.2 are joined now in one section 2.
5. Subsection 2.3 about Invariance Principle is completely removed as suggested.
6. The term *infomorphism* is mine, but it is not formal, yet. I use it to only distinguish a subcategory of the data model category. I included few sentences about it in the introduction and in section 3. Paragraph 1 from the bottom, page 4, is changed.

Also the definition of *data extension* (**definition 1**, section 3) has been changed by virtue of the more explicit description of what *infomorphism* is. In the same way, the formulation of **proposition 1** (section 3) has been changed. The previous versions of definition 1 and proposition 1 were intuitively clearer. Maybe, it is better to keep little uncertain notions but with a clearer operational content?

7. The section 4 is started as suggested.
8. I did not include any picture after *multiple intersections*. It would be really nice to include it, but it will be messy, unless it is on the plane and only one metric is used. And also the simplest case, representable by a picture, with the use of the standard Euclidean metric in the plane can give a wrong intuition how the method works, because the point of prediction will be occasionally on the *straight line* between two neighbour if such ones exist. The straight line here is just by occasion.  
But if it is absolutely necessary I will include a picture.
9. Notation MultyMet with upper arrow  $\rightarrow$  is explained after Lemma 2 in the remark. Also MultyMet is changed for MultiMet.

All the typos and not good linguistic expressions are changed as suggested.

Thank you for all critical remarks,

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