Manifolds I.

Amlal El Mahrouss
amlal@nekernel.org

November 14, 2026

Abstract

This note writes down three definitions related to operations on 3-Manifolds surfaces of Riemannian properties. More notes of this kind will come out soon

1 Manifolds: Definitions and proofs

1.1 Definitions of such 3-Manifolds

Let us introduce two definitions of two distinct Riemannian Manifold $\mathcal{M}_a$ and $\mathcal{M}_b$, such definition would be later used in our formalization attempt related to tensor marking.

Definition 1.1. Let a Riemannian 3-Manifold $\mathcal{M}_b$ be defined in a space $\mathcal{M}$ of the following set $\mathcal{M}_b \in \mathcal{M}$.

Definition 1.2. Let a Riemannian 3-Manifold $\mathcal{M}_a$ be defined in a space $\mathcal{M}$ of the following set $\mathcal{M}_a \in \mathcal{M}$.

Definition 1.3. Let $\mathcal{M}$ be a smooth space of Riemannian Manifolds of the third order. Let $\mathcal{M}$ be a smooth space of range $[0; +\infty]$ and with continuous definitions between $\mathcal{M}_a$ and $\mathcal{M}_b$.

1.2 An interesting conjecture

Conjecture 1.4. *Let per Definitions 1.1, 1.2, and 1.3 exist a degenerate case of $\mathcal{M}$ referred therefore as $\mathcal{M}_n$ to be a solution of the following Partial Derivative Equation of third order:*

$$\frac{\partial x}{\partial \mathcal{M}} \mathcal{M}_n = \mathcal{T}_n(\mathcal{M}) + \mathcal{R}. \tag{1}$$

Where there exist a constant $\mathcal{R}$, for $\mathcal{R} \in \mathcal{M}$, and a transform derivative $\mathcal{T}$ of index n.

References