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The Morphology of Parched Tears¹

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In 2015, Maurice Mikkers started the project called Imaginarium of Tears, an ongoing micro-photography collection in which Maurice takes tear samples from volunteers and makes beautiful micrographs of the dried tear. The collection is not only aesthetically beautiful, but each micrograph tells a personal story since each pattern left by the dried tear is different from each other. But not entirely, we recently discovered that all the patterns left by the remainder of the teardrop have something in common: a thick rim at the border of the tear which resembles coffee stains. This led to the discovery of a new kind of ring-shaped stains caused by different mechanisms as the classical coffee stain effect. The patterns shown in the Imaginarium of Tears are not only of artistic value, but also scientific. Our current work focus on identifying common patterns and correlate them to different types of tears (basal, emotional, reflex) or to individual donors. Using pattern recognition algorithms we analyze the fractal dimension, lacunarity and structure functions -among other variables- of the patterns to characterize them and correlate them between each other. The aim is not only purely scientific, but it would add a new layer of interest to each of the stories that every tear tells.

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