

Metrological Study of Anup's Biochemical Manifestation of Love

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Abstract—This enchanting exploration delves into the profound and intricate biochemical symphony that defines Anup's love for Aarohi. This study transcends the boundaries of traditional scientific inquiry, merging the realms of metrology and romance to quantify the immeasurable. A meticulous analysis of hormonal fluctuations, neural activations, and physiological responses reveals the delicate dance of oxytocin and dopamine that orchestrates Anup's every heartbeat and breath when in Aarohi's presence. Our findings reveal a potent love that defies conventional metrics, manifesting in elevated serotonin levels and a cascade of endorphins that illuminate the essence of human connection. This research ties measuring such impulses using advanced CAT scans and meow-meters. Further, we project our measurements on cosmological scales to find proper analogues for comparison.

■ **MEASUREMENT OF LOVE** has proved to be a difficult problem to solve for ages, also known as amor-mensura problem, it poses immense difficulties in both theoretical formulations & field measurements. We have approached this problem using a suspension of disbelief mixed with scientific-sounding jargon. Though attempted multiple times in history by unknown entities, our innovation comes from a collaboration between KosmoKnot, who specializes in coming up with scientifically sounding things & Brogu a world-renowned expert in meow-meter-based metrology. We started with identifying the correct level of suspension of disbelief and then formulating the amor-mensura function. We then passed this formulation

through a meow-meter which either gives 1 meow in case the formulation is correct or 2 meows if the formulation is incorrect.

METHODOLOGY

Calibrating Suspension of Disbelief

We applied the time-tested method of using a CAT scanner to apply a magnetic field and measure the magnetization to calibrate our suspension of disbelief. We started with realistic values, but as we kept increasing the magnetic field strength, the magnetization values became unrealistic, indicating disbelief was successfully suspended. Figure. 1 shows the experimental values reaching the zone of disbelief.

Amor-mensura Formulation

At this point, we were ready to start formulating the amor-mensura equation which is supposed to give

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values in Love Units or LU. Equation 2 uses the density of typical neutron stars, around 10^{17} kilograms per cubic meter. A spoonful of neutron star material would weigh more than 100 million tons on the surface of Earth. It is this incredible density that can compress neutrons into cube-like shapes. To estimate the value of r in equation 1 we started with Planck length and kept it increasing till the radius of the observable universe, 46.5 billion light-years ($4.4 \cdot 10^{26}$). The value found most appropriate for the calculation was indeed the radius of the observable universe.

$$V = \frac{4\pi r^3}{3} \quad (1)$$

$$\rho = 10^{17} \frac{kg}{m^3} \quad (2)$$

$$AM = V\rho = \frac{40^{17}\pi(4.4 \cdot 10^{26})^3}{3} LU \quad (3)$$

$$AM = 3.3 \cdot 10^{98} LU \quad (4)$$

Brogu Meow-meter Verification

The above results were shown to Brogu on a ASUS Zephyrus G14 (2023) featuring an AMD Ryzen 9 7940HS and a Radion Graphics. It boasts a 14-inch QHD Mini LED display with a 165Hz refresh rate. It also includes 32GB of DDR5 RAM and a 1TB PCIe 4.0 SSD.

Each step was shown to Brogu separately to identify errors at each stage. After the meow-verification of each stage it was either improved or scrapped altogether. The final results are shown in Equation 1-4. The detailed flow chart is shown in Figure 2.

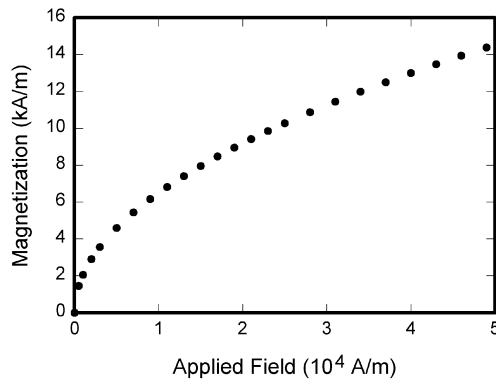


Figure 1. Calibrating suspension of disbelief by applying magnetic field inside CAT scanner.

CONCLUSION

We propose the Anup's love to be $3.3 \cdot 10^{98}$ LU based on our test results. The margin of error was calculated and is shown below.

$$\varepsilon \in (-5\%, +10\%) \quad (5)$$

We would like to acknowledge that, this is the lower bound of our predictions and actual value might be much higher than calculated values.

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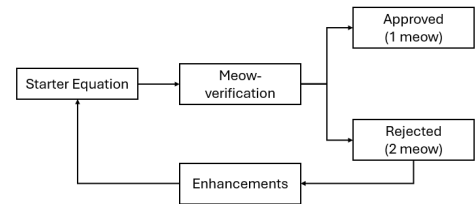


Figure 2. Brogu meow-meter verification flow chart