Rotating Frames Are Multi-Particle Excitations

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https://www.youtube.com/watch?v=Jz3mOlUOGoY&lc=Ugz4go2tKWNTpq8e4Px4AaABAg

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Like inertial frames, rotating frames are energy excitations of space-enclosing particle sets. Also as with inertial frames, the only precondition for creating such an excitation is a partner object to keep the net angular (or linear) momentum of the system at zero.

Thus if your entire universe consists of nothing but two bicycle wheels with water inside and a motor to spin them in opposite directions, the water in the wheels moves outward and stays there unless and until the angular momentum excitations are removed by locking the wheels back together.

No stars or distant galaxies are involved. Their existence or nonexistence is, in fact, completely irrelevant. That is why the centrifugal effect begins the _instant_ angular momentum energy is applied.

Making serious progress on questions like these requires moving away from over a century of reliance on the untestable and infinity-ridden assumption that space and time exist independently of matter. What we call space and time are real, but they are also an interpretation of deeper and less intuitive relationships between conserved quantities, some of which asymptotically present themselves as what we call particles.

That's also why the launching point for the next phase of physics is not the generalization of special or general relativity _per se,_ but a new look and more thoughtful look at the most successful physics theory of all time: The Standard Model of particle physics.

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