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The energy budget of fast radio burst: Quake from pulsar-like compact star

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With a growing sample of fast radio bursts (FRBs), we investigate the energy budget of different power sources within the framework of magnetar starquake triggering mechanism.
During a starquake, the energy can be released in any form through strain, magnetic, rotational, and gravitational energies.
{\bf The strain energy can be converted from other three kinds of energy during starquakes.
The following findings are revealed:
1. The crust can store free magnetic energy of erg by existing toroidal fields, sustaining bursts with frequent starquakes occurring due to crustal instability.}
2. The strain energy develops as a rigid object spins down, which can be released during a global starquake accompanied by a glitch. However, it takes a long time to accumulate enough strain energy via spindown.
3. The rotational energy of a magnetar with can match the energy and luminosity budget of FRBs.
4. The budget of the total gravitational energy is high, but the mechanism and efficiency of converting this energy to radiation deserve further exploration.

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