

Abstract Submitted  
for the APR09 Meeting of  
The American Physical Society

**Spiral Galactic Formation and Evolution** STEWART BREKKE, Northeastern Illinois University (former grad student) — Before the period of galactic formation the universe consisted of a vast number of pre-formed systems consisting of two or more pre-galactic arms, the arms orbiting each other. As the orbits of the arms decayed the sides of the fore-sections of the arms tangentially collided and joined and thereby forming multi-armed spiral galaxies which began to rotate. The rotation resulted from the conversion of the orbital motion of the individual arms when joined into faster rotational motion of the newly formed galaxy. The spiral arms were maintained by the centripetal force of the rapidly rotational motion of the galaxy system. As the rotational motion of the galaxy slowed down the arms of the spiral galaxy collapsed towards the body of the galaxy due to lessening of centripetal force on the arms and elliptical galaxies were formed and with further lessening of galactic rotational motion galactic disks were formed. One can see in galaxies M51, M100, NGC2336 and NGC4939 the galactic arms came from external orbit, not disks or instabilities in support of this theory. Also in support of this theory of galactic evolution is that spiral galaxies rotate faster than ellipticals or disks.

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Date submitted: 09 Mar 2009

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