1023-92-1644   **Stephane Douady*** (`douady@lpsw.ens.fr`), 24 rue Lhomond, Paris. *A new characterisation of irregular phyllotactic patterns.*

We study the irregular and transient patterns that appear with Snow & Snow rules of phyllotactic pattern formation (where the successively added elements have a definite size). Even if the pattern is irregular,there is a way to describe it at each iteration by just looking at the instantaneaous "resultant" vector, a vector that would be the global pattern periodicity vector if there were no further rearangements. This allows to study in great details the transitions between modes, and the stabilizations on each pattern.

Within this description the possible states of the modes , and in particular the stable possible irregular patterns, seem to be restricted to special regions in a certain geometric space. Based on this geometrical possibilities, one can also define a likeliness for each pattern in abstracto, that interestingly does not necessarily select the Fibonacci sequence. This further shows the importance of history in selecting the observed pattern. This work is in collaboration with P. Atela and C. Gole. (Received September 27, 2006)