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Spot patterns in the BZ reaction

We study spot patterns in the BZ reaction. We show that these patterns can undergo two different types of self-replication. The first type of self-replication is due to fold point corresponding to a disappearance of the steady state. The second type is due to an instability of the steady state. In the former case, the spot splits into a ring. In the latter case, the spot replicates into two spots, or forms finger-like patterns.