**Supplementary Figure 6. Emergence of two peaks gene expression patterns as a consequence of seasonal photoperiod or day shortening (skotoperiod or night lengthening).** Animation illustrating how seasonal day or photoperiod shortening (night or skotoperiod lengthening) may result in the emergence of two peaks gene expression patterns as a consequence of the two constituent gene expression profiles becoming out of phase. The observed gene expression pattern represented by a continuous thick line can result from the combination of two distinct expression profiles represented by thin dotted and dashed lines. One of these expression profiles (dotted line) may not respond to seasonal changes in photoperiod/skotoperiod whereas the other one (dashed line) may experience phase shifts and amplitude changes. Under long day conditions (LD, alternating 16h light / 8h dark) the phases or maximum expression level time point of both expression profiles may coincide resulting in a single peak expression pattern. Whereas under short day conditions (SD, alternating 8h light / 16h dark) the phases may be reached at different time points producing a two peaks expression pattern. Transitions from red to blue colors and viceversa represent seasonal changes in photoperiods and skotoperiods resulting in gradual transitions from two peaks to a single peak expression pattern.