# On the characterization of flowering curves using Gaussian mixture models

Submitted by Frédéric Proïa on Wed, 10/21/2015 - 15:44

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| Titre | On the characterization of flowering curves using Gaussian mixture models |
| Type de publication | Article de revue |
| Auteur | Proïa, Frédéric [1], Pernet, Alix [2], Thouroude, Tatiana [3], Michel, Gilles [4], Clotault, Jérémy [5] |
| Editeur | Elsevier |
| Type | Article scientifique dans une revue à comité de lecture |
| Année | 2016 |
| Langue | Anglais |
| Date | 7 août 2016 |
| Pagination | 75-88 |
| Volume | 402 |
| Titre de la revue | Journal of Theoretical Biology |
| ISSN | 0022-5193 |
| Mots-clés | Characterization of curves [6], Classification of curves [7], Flowering curves [8], Gaussian mixture models [9], Longitudinal k-means algorithm [10], Principal component analysis [11], Reblooming behavior [12], Recurrent flowering [13] |
| Résumé en anglais | In this paper, we develop a statistical methodology applied to the characterization of flowering curves using Gaussian mixture models. Our study relies on a set of rosebushes flowering data, and Gaussian mixture models are mainly used to quantify the reblooming properties of each one. In this regard, we also suggest our own selection criterion to take into account the lack of symmetry of most of the flowering curves. Three classes are created on the basis of a principal component analysis conducted on a set of reblooming indicators, and a subclassification is made using a longitudinal $k$--means algorithm which also highlights the role played by the precocity of the flowering. In this way, we obtain an overview of the correlations between the features we decided to retain on each curve. In particular, results suggest the lack of correlation between reblooming and flowering precocity. The pertinent indicators obtained in this study will be a first step towards the comprehension of the environmental and genetic control of these biological processes. |
| URL de la notice | http://okina.univ-angers.fr/publications/ua14129 [14] |
| DOI | 10.1016/j.jtbi.2016.04.022 [15] |
| Lien vers le document | http://www.sciencedirect.com/science/article/pii/S0022519316300509 [16] |

**Liens**

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[16] http://www.sciencedirect.com/science/article/pii/S0022519316300509