The eliminant of two two-dimensional quadratic splines with a common point

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Abstract

In this paper, I describe the eliminant of two two-dimensional quadratic splines with a common point.
The paper ends with "The End"

Introduction

The general two-dimensional quadratic spline is

$$x(t) = at^2 + bt + c$$

$$y(t) = et^2 + ft + g$$

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The eliminant of two two-dimensional quadratic splines

$$x(t) = at^2 + bt + c$$

$$y(t) = et^2 + ft + g$$

and

$$\xi(t) = \alpha t^2 + \beta t + \chi$$

$$\psi(t) = \epsilon t^2 + \phi t + \gamma$$

such that

$$x(t) = \xi(t) \wedge y(t) = \psi(t)$$

is

$$-a^2\gamma^2 - \alpha^2\gamma^2 - a^2g^2 + 2a^2\gamma g + 2\alpha a\gamma^2 + ab\gamma\phi - a\beta\gamma\phi + \alpha\beta\gamma\phi - ab\gamma f + abfg - abg\phi + 2ac\gamma\epsilon - 2ac\gamma e + 2aceg - acf^2 + 2acf\phi - 2acg\epsilon - 2a\gamma\chi\epsilon + 2\alpha\gamma\chi\epsilon - ac\phi^2 + 2a\gamma e\chi - 2aeg\chi + af^2\chi + a\beta\gamma f - a\beta fg - 2af\chi\phi + 2\alpha ag^2 - 4\alpha a\gamma g + a\beta g\phi + 2ag\chi\epsilon + a\chi\phi^2 - \alpha\chi\phi^2 - b^2\gamma\epsilon - \beta^2\gamma\epsilon + b^2\gamma e - b^2eg + b^2g\epsilon - \alpha b\gamma\phi + 2b\beta\gamma\epsilon + bcef - bce\phi - bcf\epsilon + bc\epsilon\phi - 2b\beta\gamma e - bef\chi + 2b\beta eg + be\chi\phi + \alpha b\gamma f - \alpha bfg + bf\chi\epsilon + \alpha bg\phi - 2b\beta g\epsilon - b\chi\epsilon\phi + \beta\chi\epsilon\phi - c^2e^2 + 2c^2e\epsilon - c^2\epsilon^2 - 2\alpha c\gamma\epsilon + \alpha c\phi^2 - \beta c\epsilon\phi + 2ce^2\chi + 2\alpha c\gamma e + \beta ce\phi - \beta cef - 2\alpha ceg - 4ce\chi\epsilon + \alpha cf^2 - 2\alpha cf\phi + \beta cf\epsilon + 2\alpha cg\epsilon + 2c\chi\epsilon^2 - e^2\chi^2 - 2\alpha\gamma e\chi + \beta^2\gamma e - \beta e\chi\phi + \beta ef\chi + 2\alpha eg\chi - \beta^2eg + 2e\chi^2\epsilon - \alpha f^2\chi - \alpha\beta\gamma f + 2\alpha f\chi\phi - \beta f\chi\epsilon + \alpha\beta fg - \alpha^2g^2 + 2\alpha^2\gamma g - \alpha\beta g\phi - 2\alpha g\chi\epsilon + \beta^2g\epsilon - \chi^2\epsilon^2 = 0$$

The End