

Table 2.1: Parameterizations of the covariance matrix for multidimensional data

identifier	Model	Distribution	Volume	Shape	Orientation
E		(univariate)	equal		
V		(univariate)	variable		
EII	λI	Spherical	equal	equal	NA
VII	$\lambda_k I$	Spherical	variable	equal	NA
EII	λA	Diagonal	equal	equal	coordinate axes
VEI	$\lambda_k A$	Diagonal	variable	equal	coordinate axes
EVI	$\lambda A A_k$	Diagonal	equal	variable	coordinate axes
VVI	$\lambda_k A A_k$	Diagonal	variable	variable	coordinate axes
EIE	$\lambda D A D^T$	Ellipsoidal	equal	equal	equal
EIEV	$\lambda D_k A D_k^T$	Ellipsoidal	equal	equal	variable
VEV	$\lambda_k D_k A D_k^T$	Ellipsoidal	variable	equal	variable
VVV	$\lambda_k D_k A_k D_k^T$	Ellipsoidal	variable	variable	variable

Source: Fraley and Raftery (2009)

incomplete data. Likelihood estimation for mixture models with the E-M algorithm requires the log-likelihood for the complete data. The data can be viewed as