



$$\eta_k = [DF(\cdot) - g\lambda_k DH(\cdot)]\eta_k. \quad (1)$$

$\eta_k \in \mathbb{R}^n$ ,  $k = 1, \dots, N$ .  $G$  is the matrix defined by (1).  $\alpha = g\lambda_k$ .

$$\eta = [DF(\cdot) - \alpha DH(\cdot)]\eta. \quad (2)$$

$\Psi(\alpha) = \sum_{k=1}^N \Psi(g\lambda_k)$ .  $H$  is the Hessian matrix.  $\lambda_k$  are the eigenvalues.  $\Psi_* = \min_k \Psi(g\lambda_k)$ .  $\Psi_* > 0$ .

$$x_i = -(\dots), \quad x_i = +0, \quad (3)$$

$$= 0. + x(\dots).$$

$d = \dots$ ,  $X = \dots$ .  $\Psi(\alpha)$  as  $\alpha \rightarrow 0^+$ .  $\Psi(\alpha)$  as  $\alpha \rightarrow 1^-$ .  $N$ .  $\{a_i\}_{i=1}^N$ .  $G$ .

$$G = \begin{pmatrix} b_1 & -a_1 & 0 & 0 & \cdots & 0 & -a_N \\ -a_1 & b & -a & 0 & \cdots & 0 & 0 \\ 0 & -a & b & -a & \cdots & 0 & 0 \\ \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\ -a_N & 0 & 0 & 0 & 0 & -a_{N-1} & b_N \end{pmatrix}, \quad (4)$$

$$b_i = (a_{i-1} + a_i), \quad i = 1, \dots$$

Handwritten musical notation on a page. The notation includes various notes, rests, and symbols. Key elements include:

- Staff 1:  $g$
- Staff 2:  $(\circ)E$
- Staff 3:  $(\circ)$
- Staff 4:  $g = 1.4$
- Staff 5:  $(\alpha = 4.4$
- Staff 6:  $E$
- Staff 7:  $(\circ)E$
- Staff 8:  $(\circ)E$
- Staff 9:  $(\circ)E$
- Staff 10:  $(\circ)E$
- Staff 11:  $i \approx$

[

$b_{k+1}(\xi) = \dots k_{k+1} \cdot E_j(\dots)$

