## 20 subregions with different types of solution

$$
\begin{aligned}
& \gamma \sim \nu \\
& \beta \sim r
\end{aligned}
$$



| Region | Subregion. | Exceptional Lines Present in Each Subregion |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | B | UL | $\mathrm{PDL}_{\mathrm{y}}$ | PDL | - EDL ${ }_{\text {a }}$ | $\mathrm{EDL}_{\mathrm{c}}$ | $10^{+}$ | $10^{-}$ | -EL | SL | SE | FL |
| - I |  | - | ${ }^{\prime} \times$ |  |  | $\square$ |  |  |  |  |  |  |  |
| III |  | $\begin{aligned} & x \\ & x \\ & x \\ & x \\ & x \end{aligned}$ | $\left\|\begin{array}{l} \mathbf{x} \\ \mathbf{x} \\ \mathbf{x} \\ \mathbf{x} \\ \mathbf{x} \end{array}\right\|$ | $\begin{aligned} & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \end{aligned}$ |  | $\stackrel{ }{ }{ }^{-}$ | , | . | $\mathbf{x}$ <br> $\mathbf{x}$ <br> $\mathbf{x}$ <br> $\mathbf{x}$ <br> $\mathbf{x}$ | $\begin{aligned} & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \end{aligned}$ | x $\times$ | x $x$ | x |
| III $\ddots$ | a | X | x <br> $\mathbf{x}$ | - |  | x | x | x |  |  |  |  |  |
| IV | $\begin{gathered} \mathrm{a} \\ \mathrm{~b} \\ \mathrm{c} \\ \mathrm{~d} \\ \mathrm{e} \\ \mathrm{f} \\ \mathrm{~g} \\ \mathrm{~h} \end{gathered}$ |  | [ $\begin{aligned} & x \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x}\end{aligned}$ | $\mathbf{x}$ $\mathbf{x}$ $\mathbf{x}$ $\mathbf{x}$ $\mathbf{x}$ $\mathbf{x}$ $\mathbf{x}$ $\mathbf{x}$ | $\begin{gathered} x \\ x \\ x \\ x \\ x \\ x \\ x \\ x \end{gathered}$ | $\mathbf{x}$ <br> $\mathbf{x}$ <br> $\mathbf{x}$ | $\begin{gathered} \mathbf{x} \\ \mathbf{x} \\ \mathbf{x} \end{gathered}$ | x $\mathbf{x}$ $\mathbf{x}$ $\mathbf{x}$ x x x x | $\begin{aligned} & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \end{aligned}$ | $\begin{aligned} & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \\ & \mathbf{x} \end{aligned}$ | $\begin{aligned} & x \\ & x \end{aligned}$ | $\begin{gathered} \\ x \\ x \\ x \\ x \end{gathered}$ | $\begin{aligned} & x \\ & x \end{aligned}$ |
|  | d $\begin{aligned} & a \\ & b \\ & c \\ & d\end{aligned}$ |  | $\mathbf{x}$ $\mathbf{x}$ $\mathbf{x}$ $\mathbf{x}$ | x x x x | $\because$ | x | $x$ | x $\mathbf{x}$ $\mathbf{x}$ |  |  | . |  |  |

FIGURE 5.1. Definitions of Subregions

