

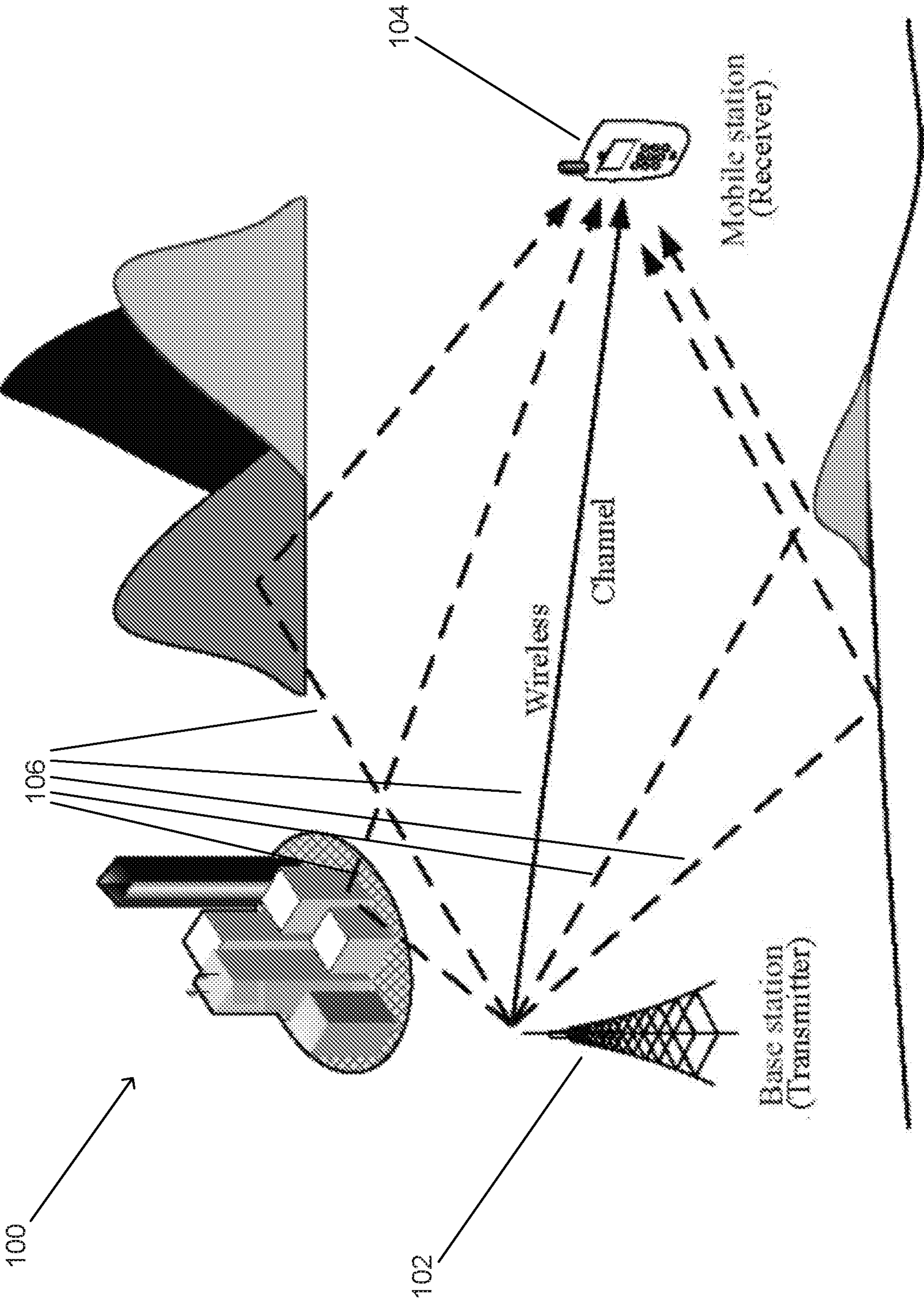


FIG. 1

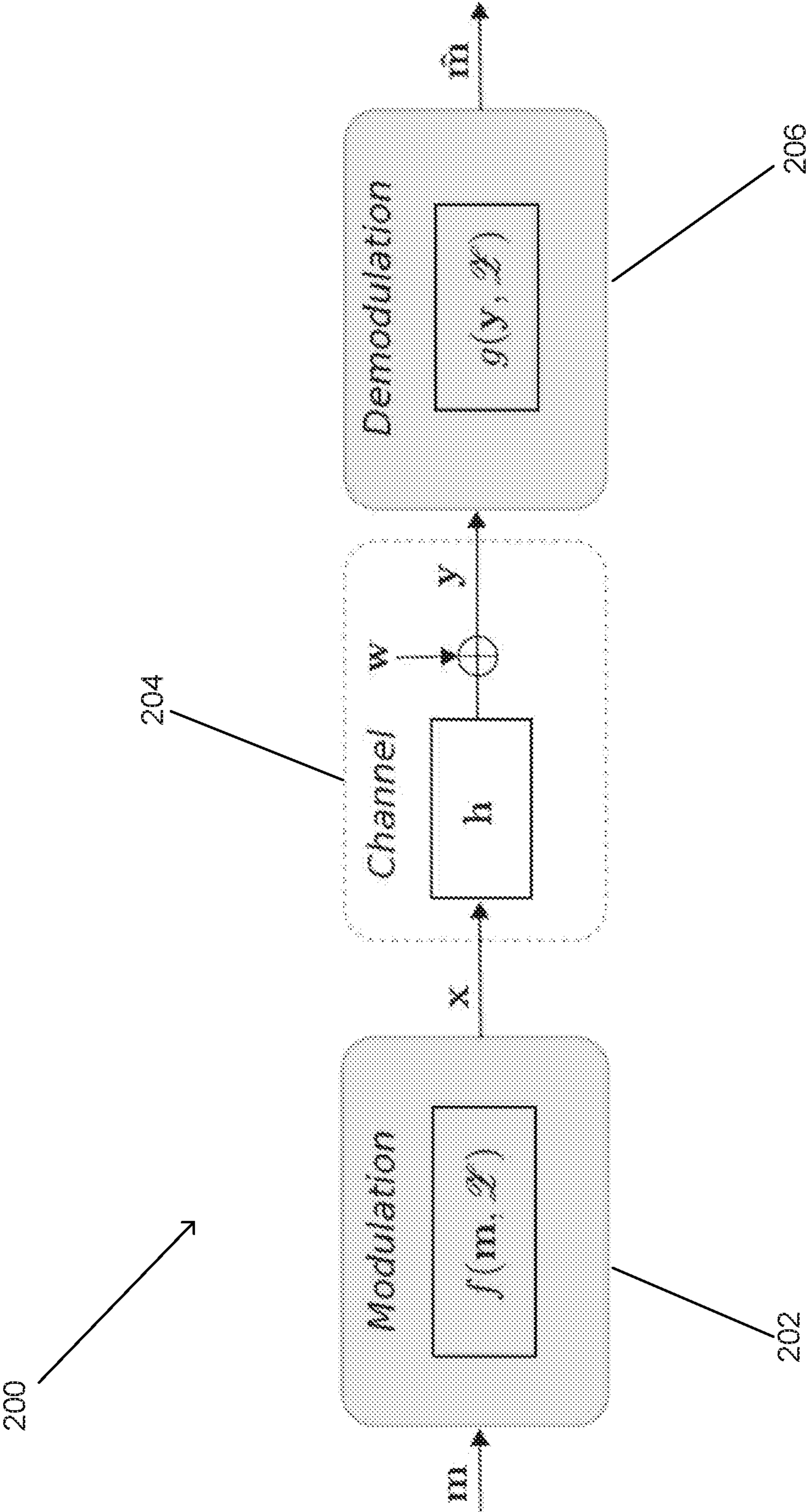


FIG. 2

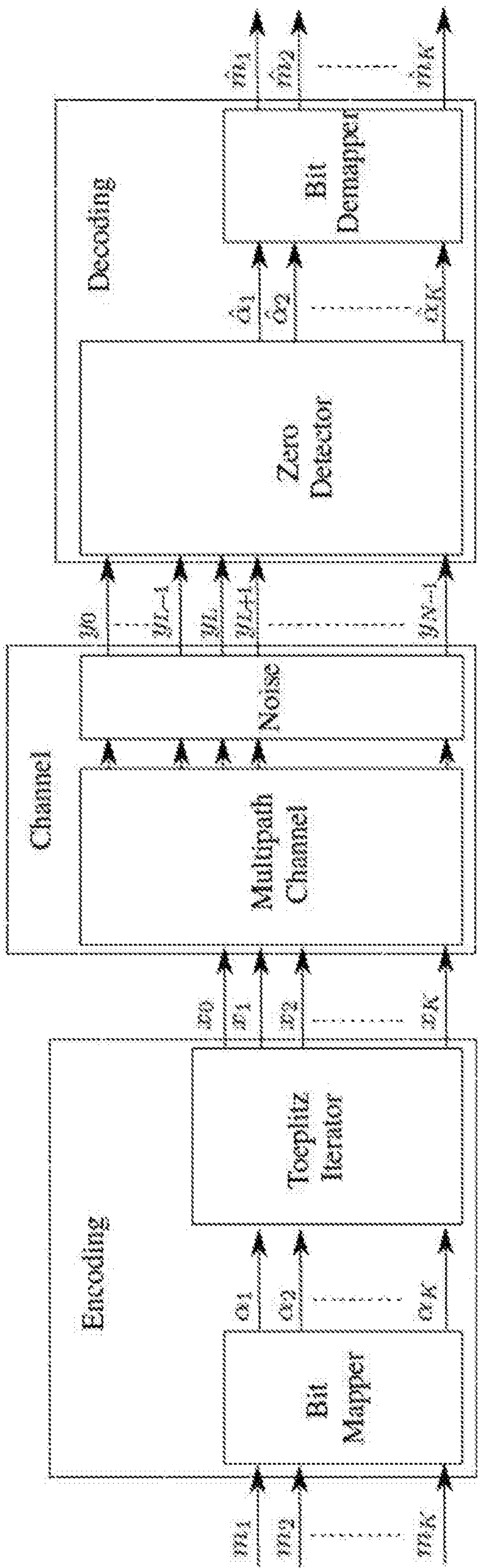


FIG. 3

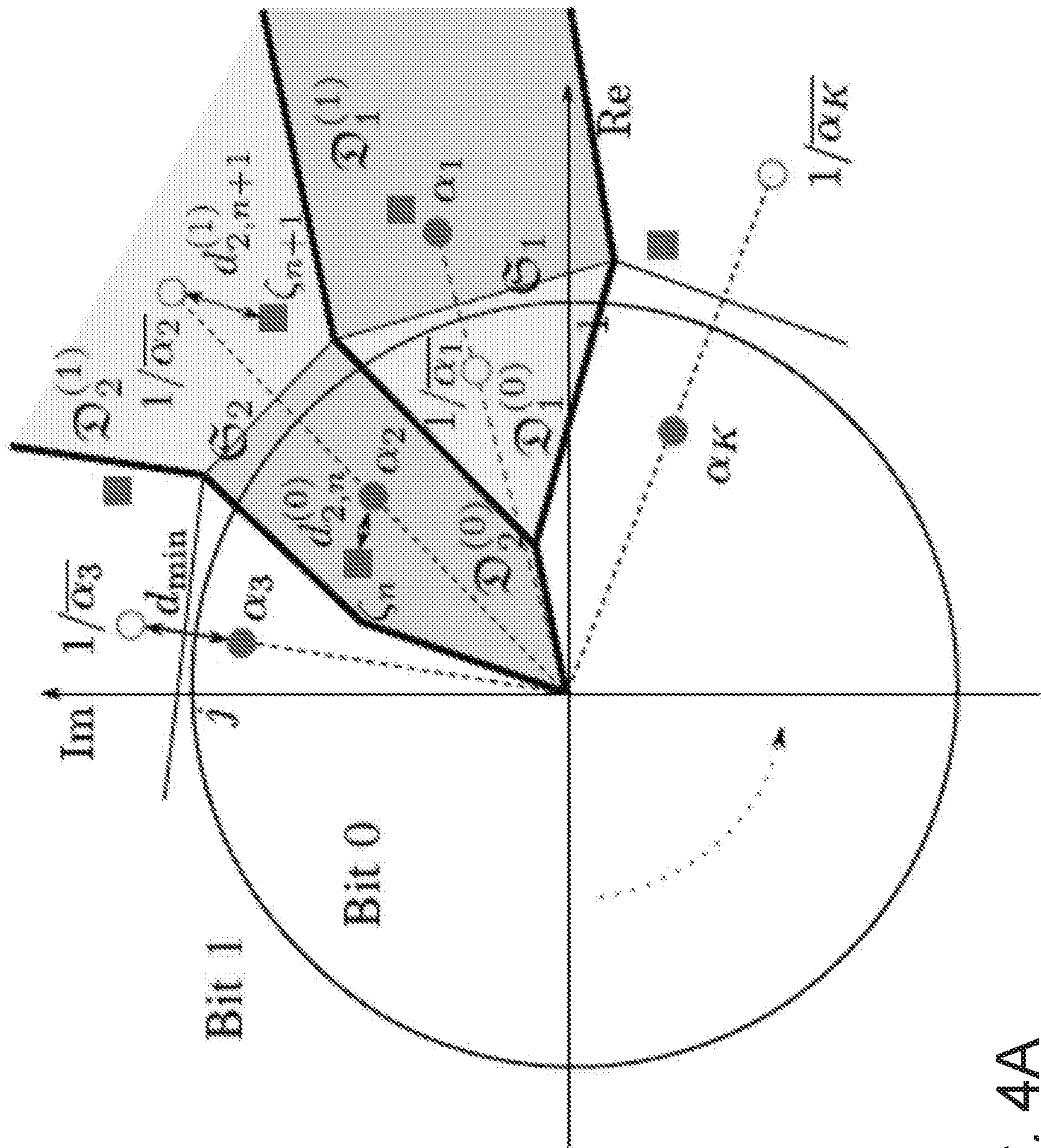
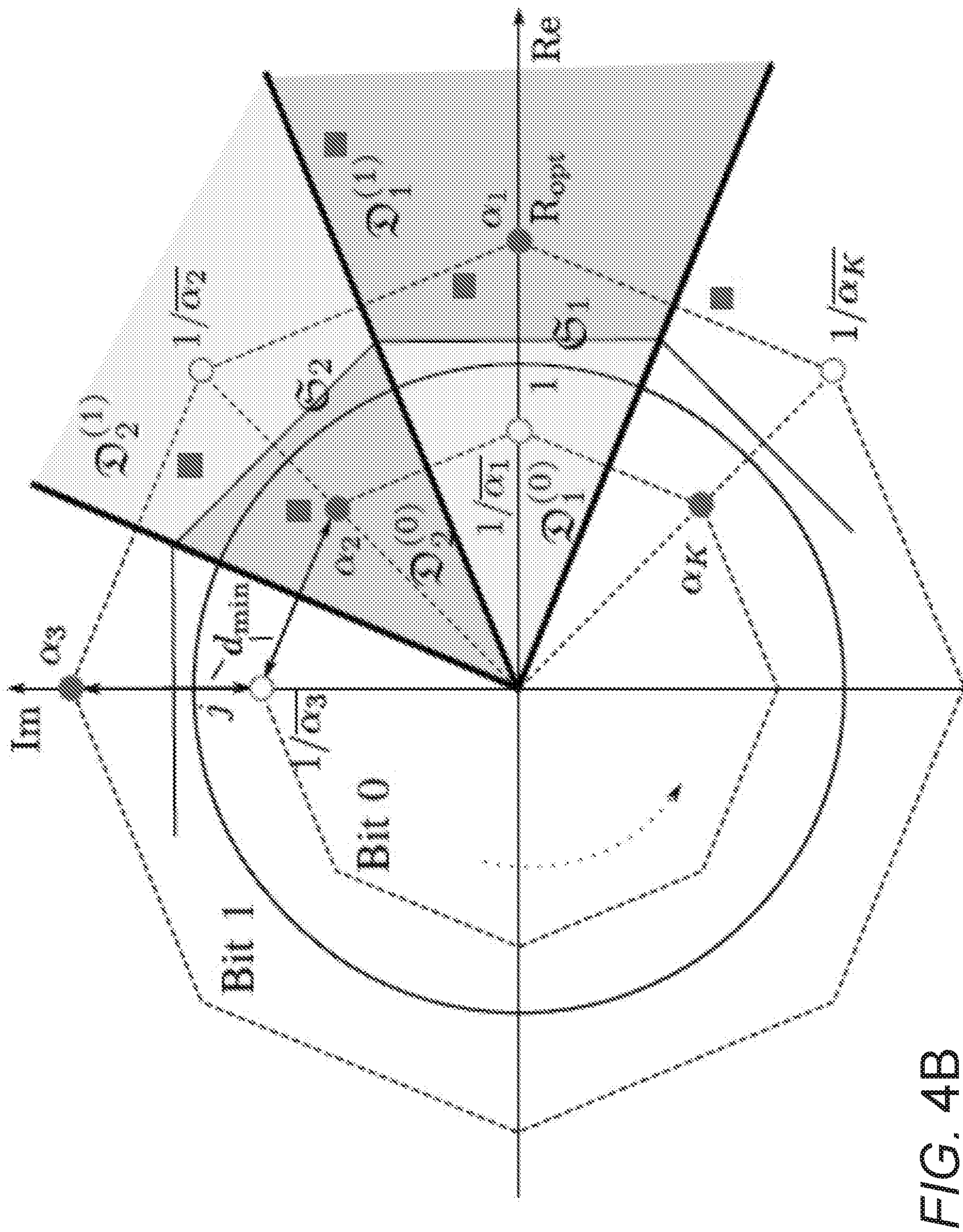


FIG. 4A



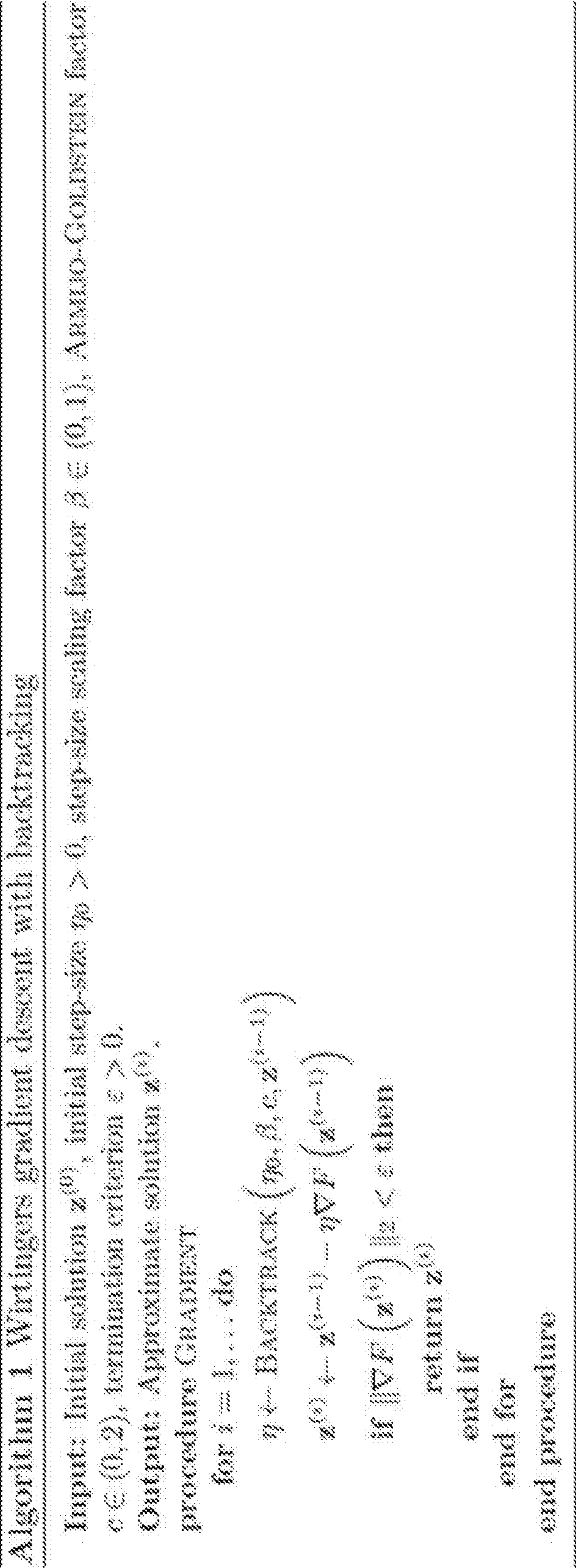


FIG. 5

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Algorithm 2 Backtracking line search

Input: Initial step-size $\eta^{(0)} > 0$, step-size deceleration factor $\beta \in (0, 1)$ condition parameter $c \in (0, 2)$, start point $\mathbf{z}$.

Output: Approximately ideal step-size $\eta^{(*)}$.

procedure BACKTRACK

 for $i = 0, \dots$ do

 if $F(\mathbf{z} - \eta^{(i)} \nabla F(\mathbf{z})) > F(\mathbf{z}) - c\eta^{(i)} \|\nabla F(\mathbf{z})\|_2^2$ then

$\eta^{(i+1)} \leftarrow \beta \eta^{(i)}$

 else

 return $\eta^{(i)}$

 end if

 end for

end procedure

FIG. 6

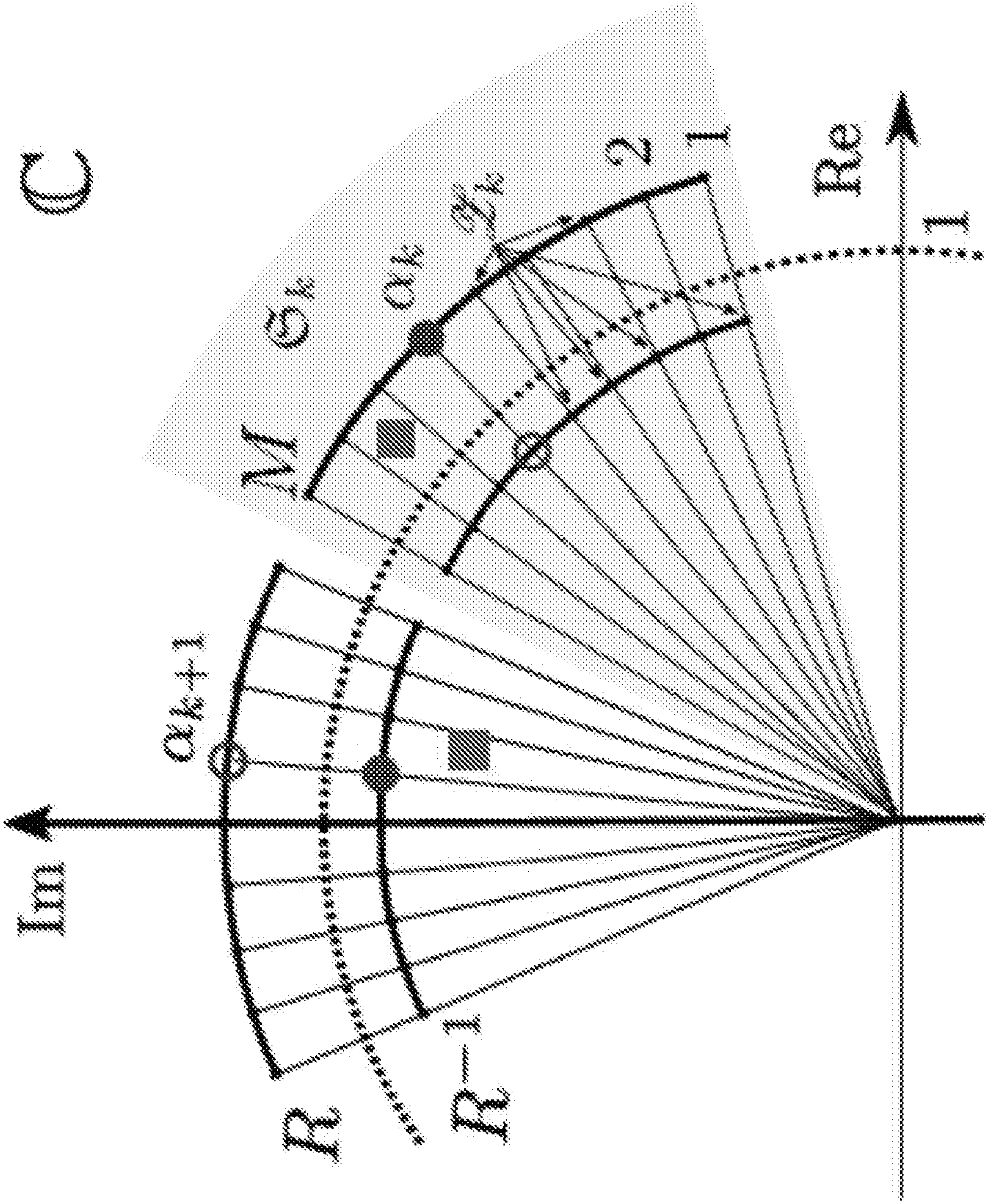


FIG. 7

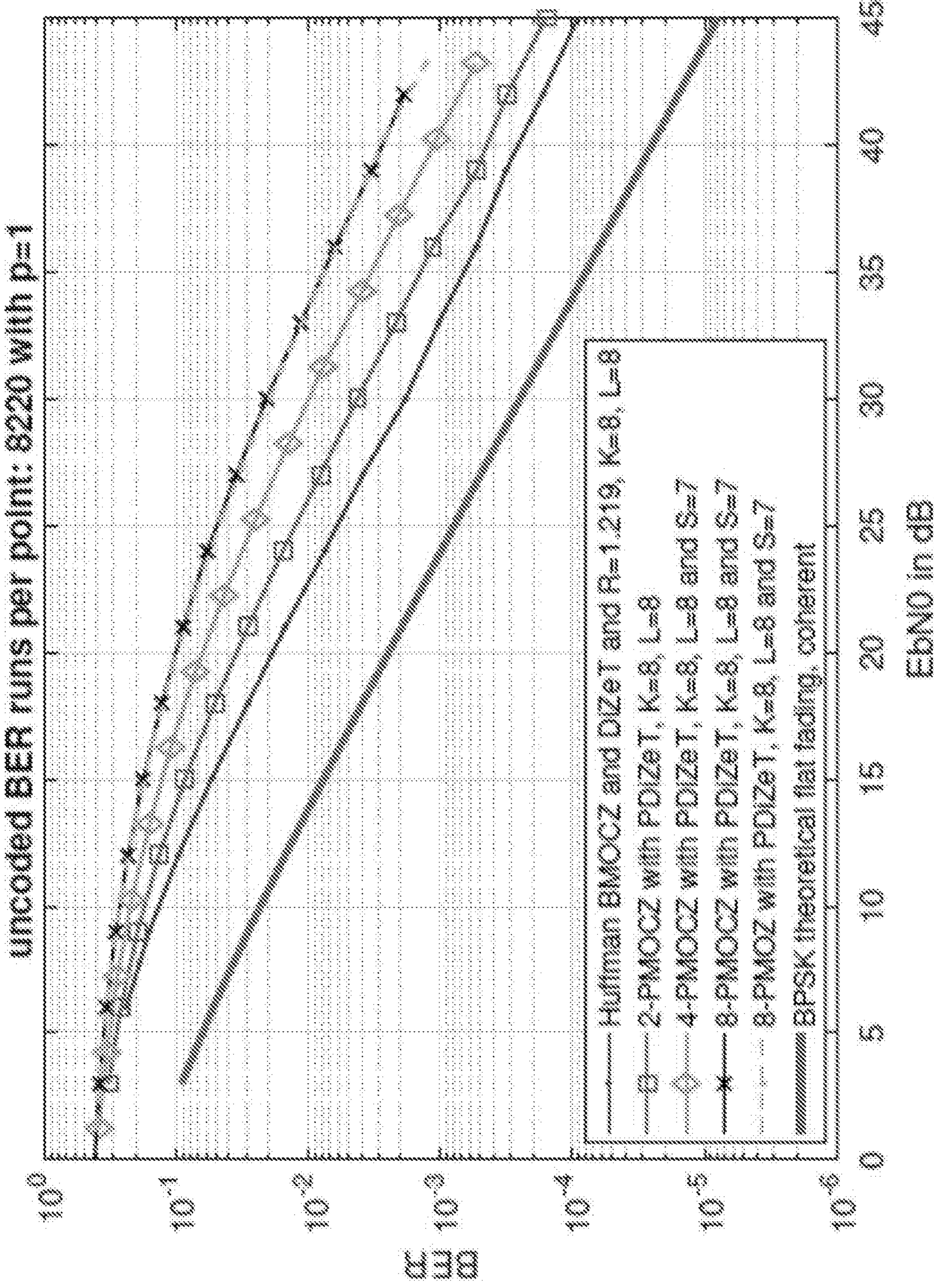


FIG. 8

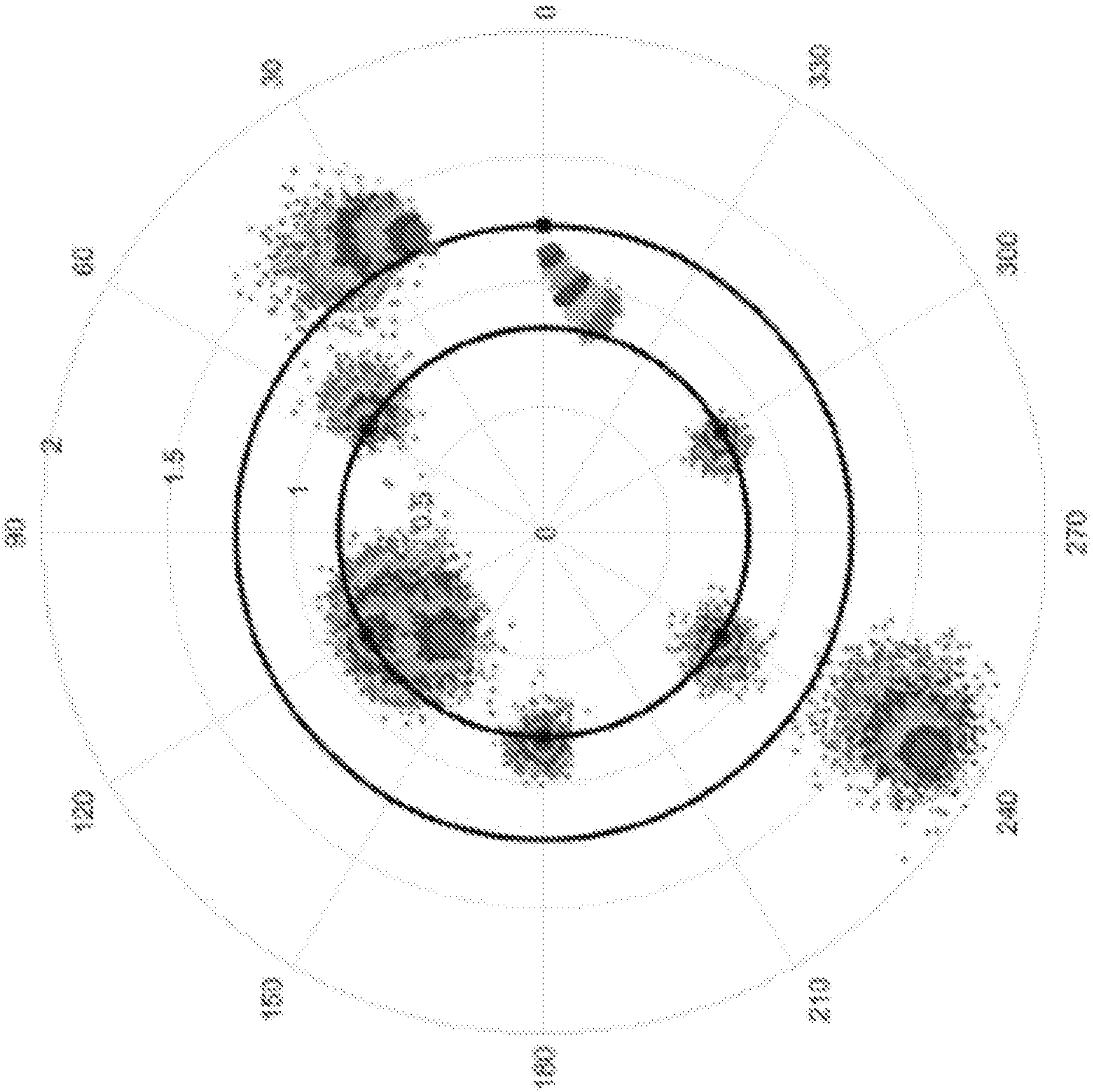


FIG. 9

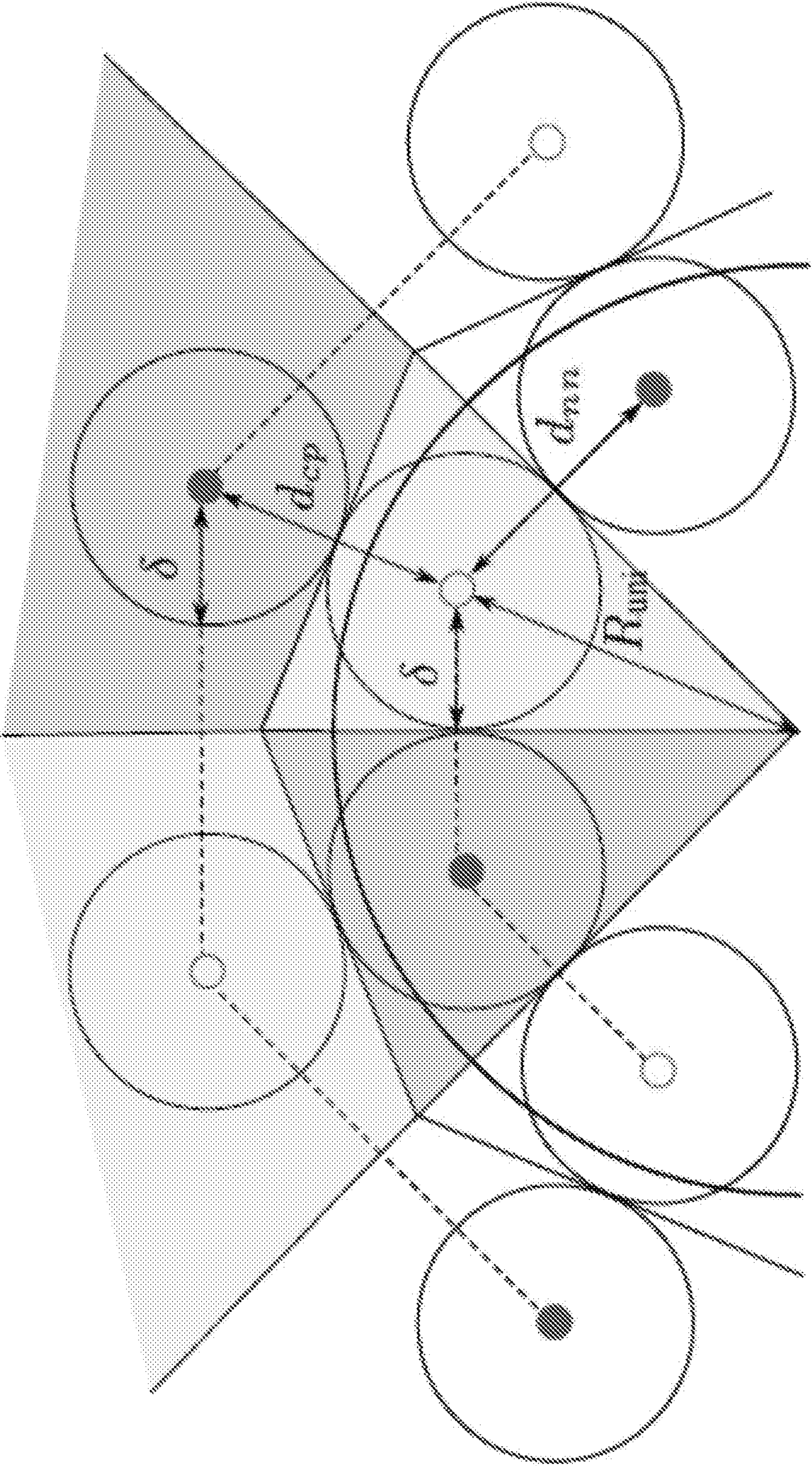


FIG. 10

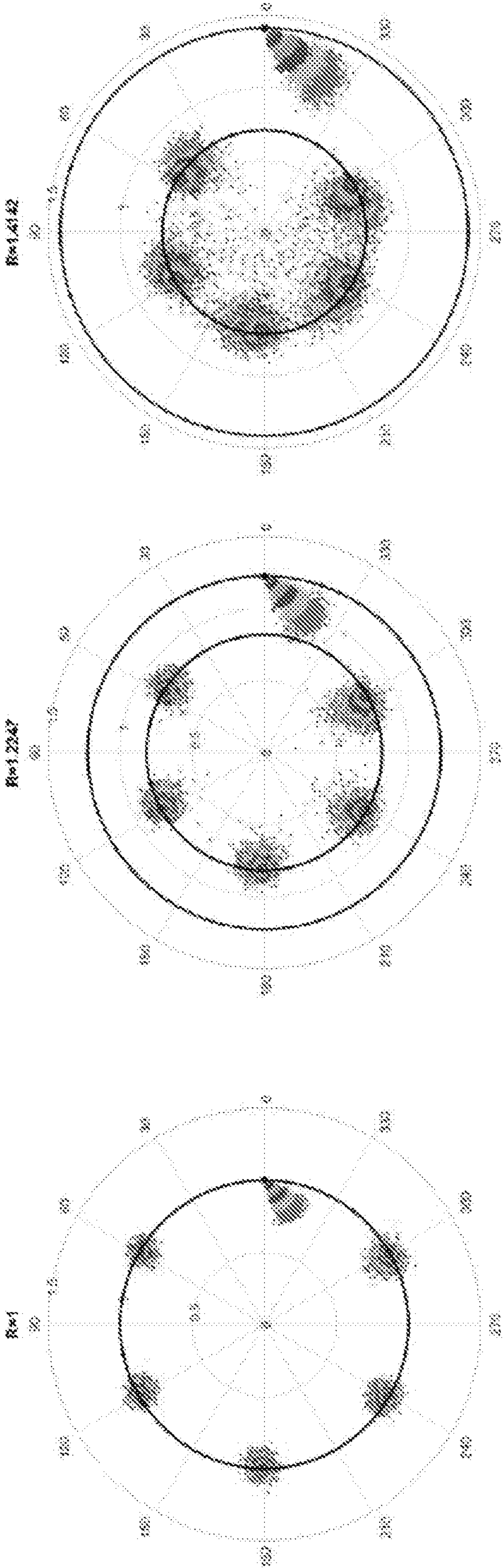


FIG. 11C

FIG. 11B

FIG. 11A

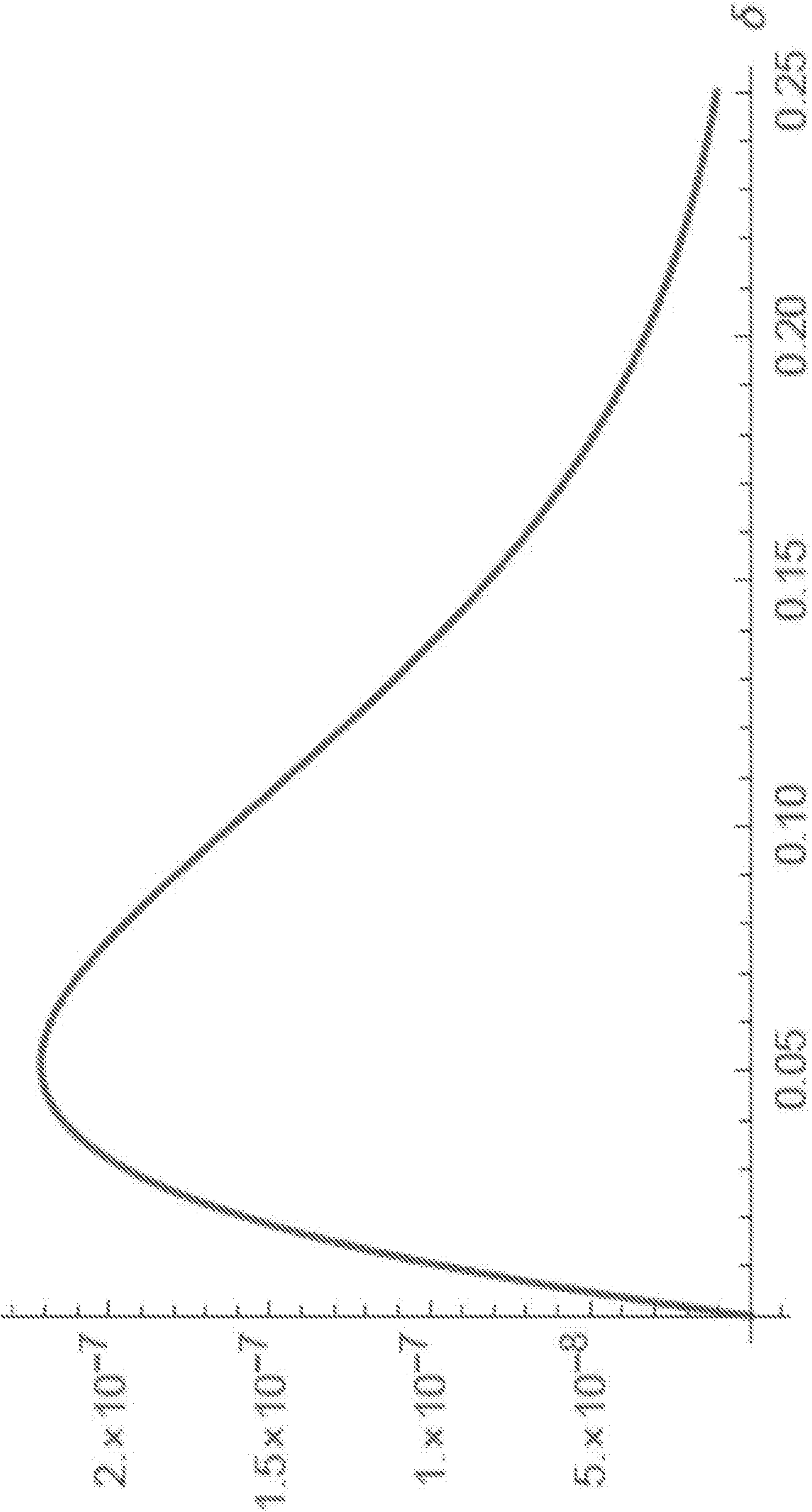


FIG. 12

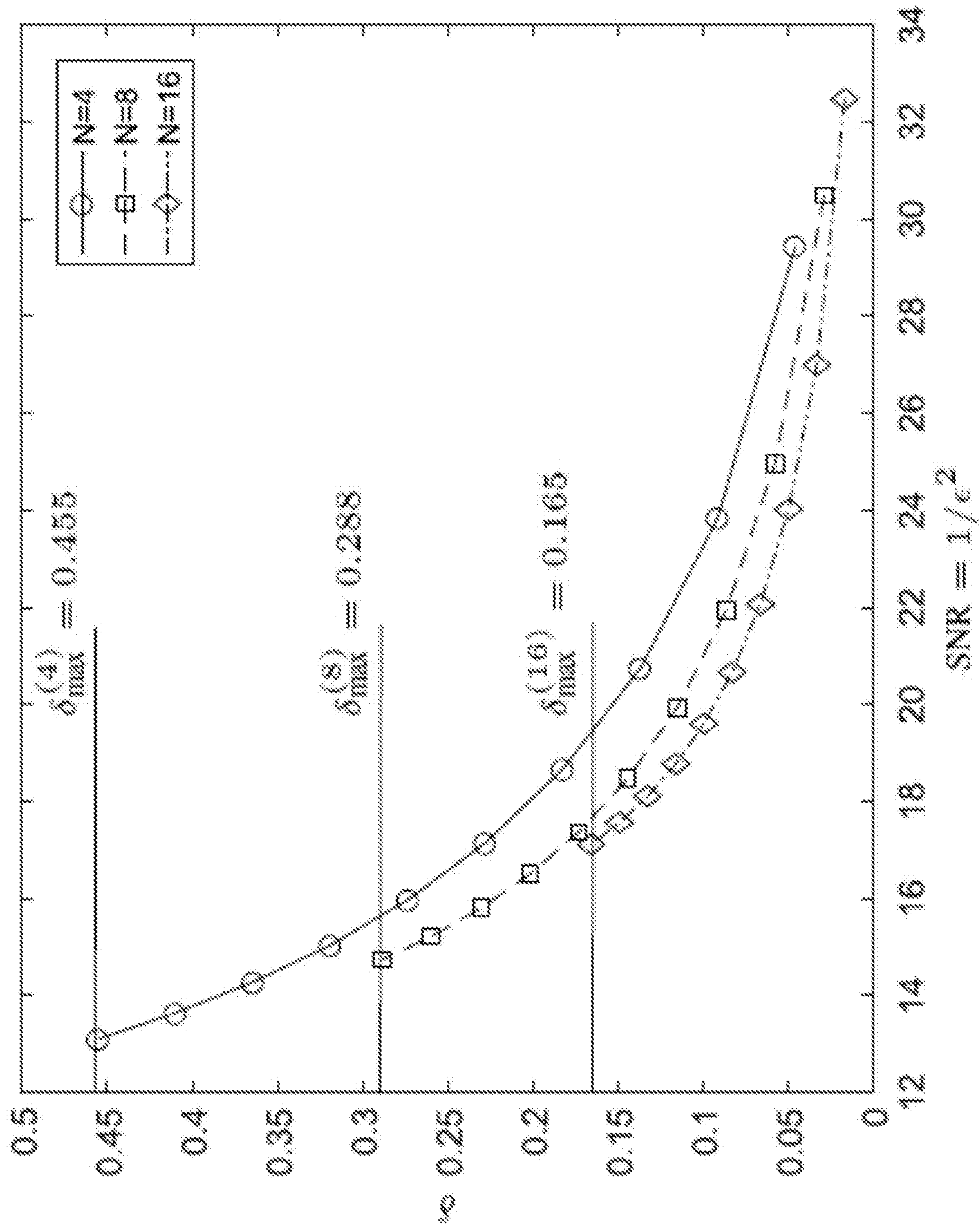


FIG. 13

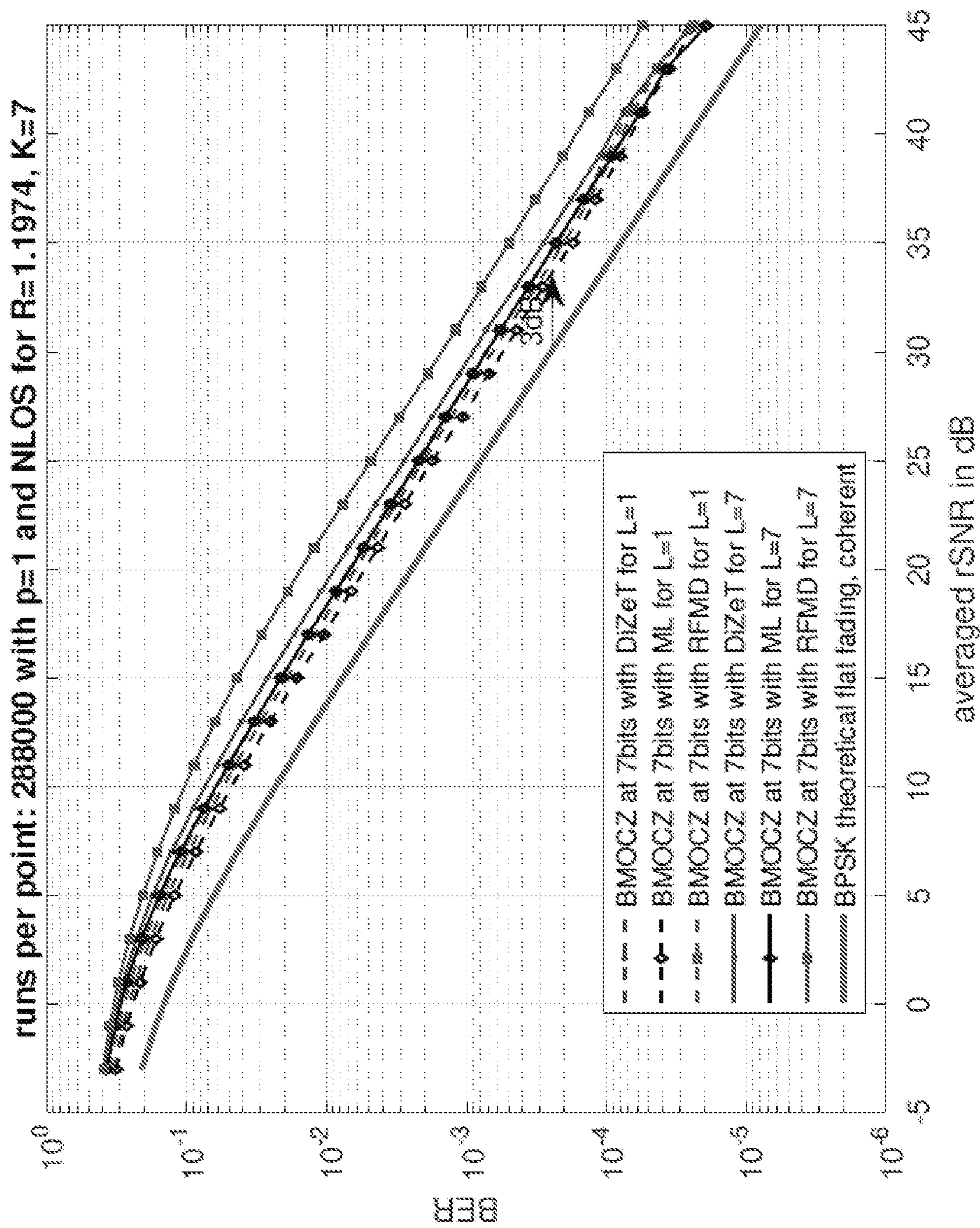


FIG. 14A

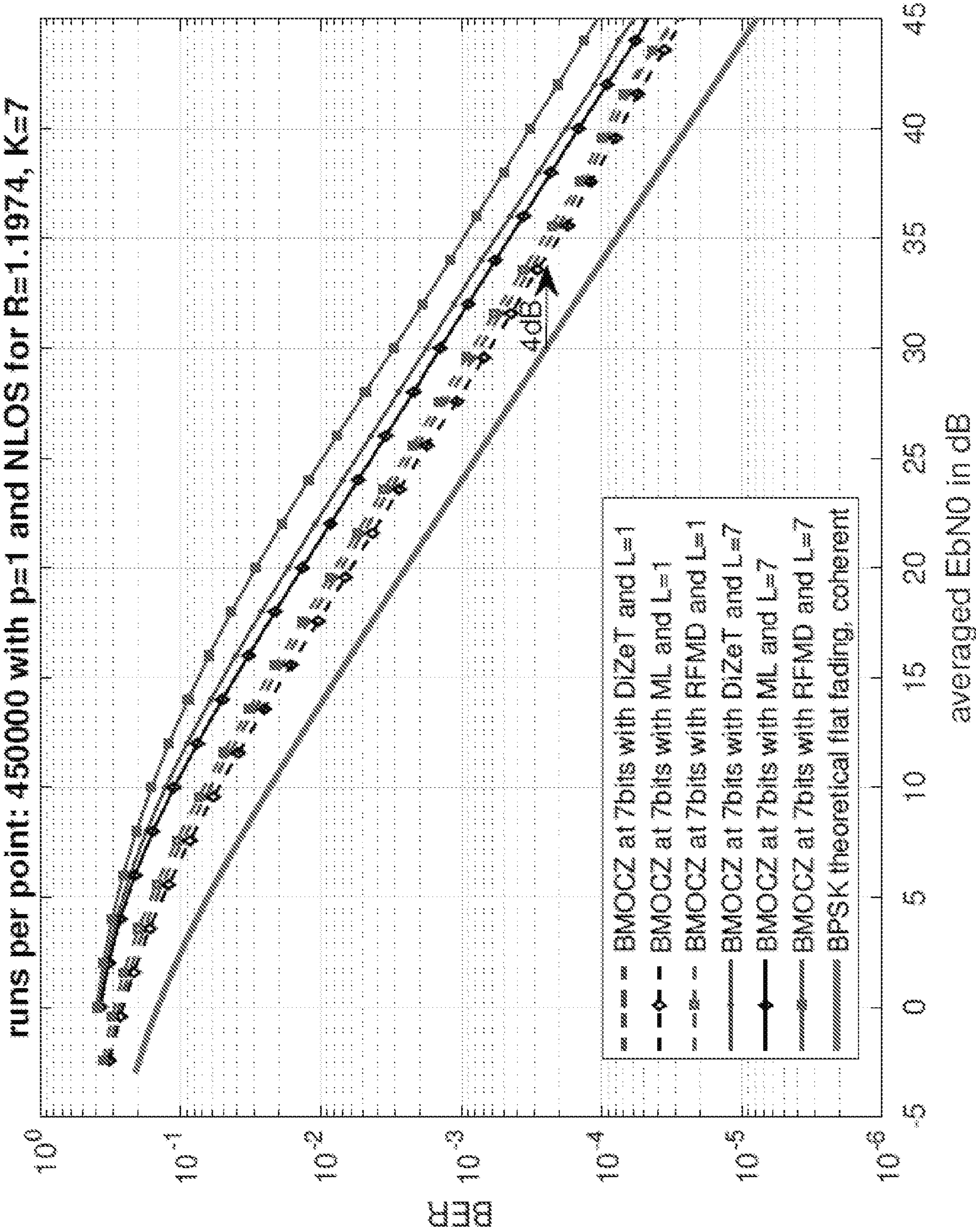


FIG. 14B

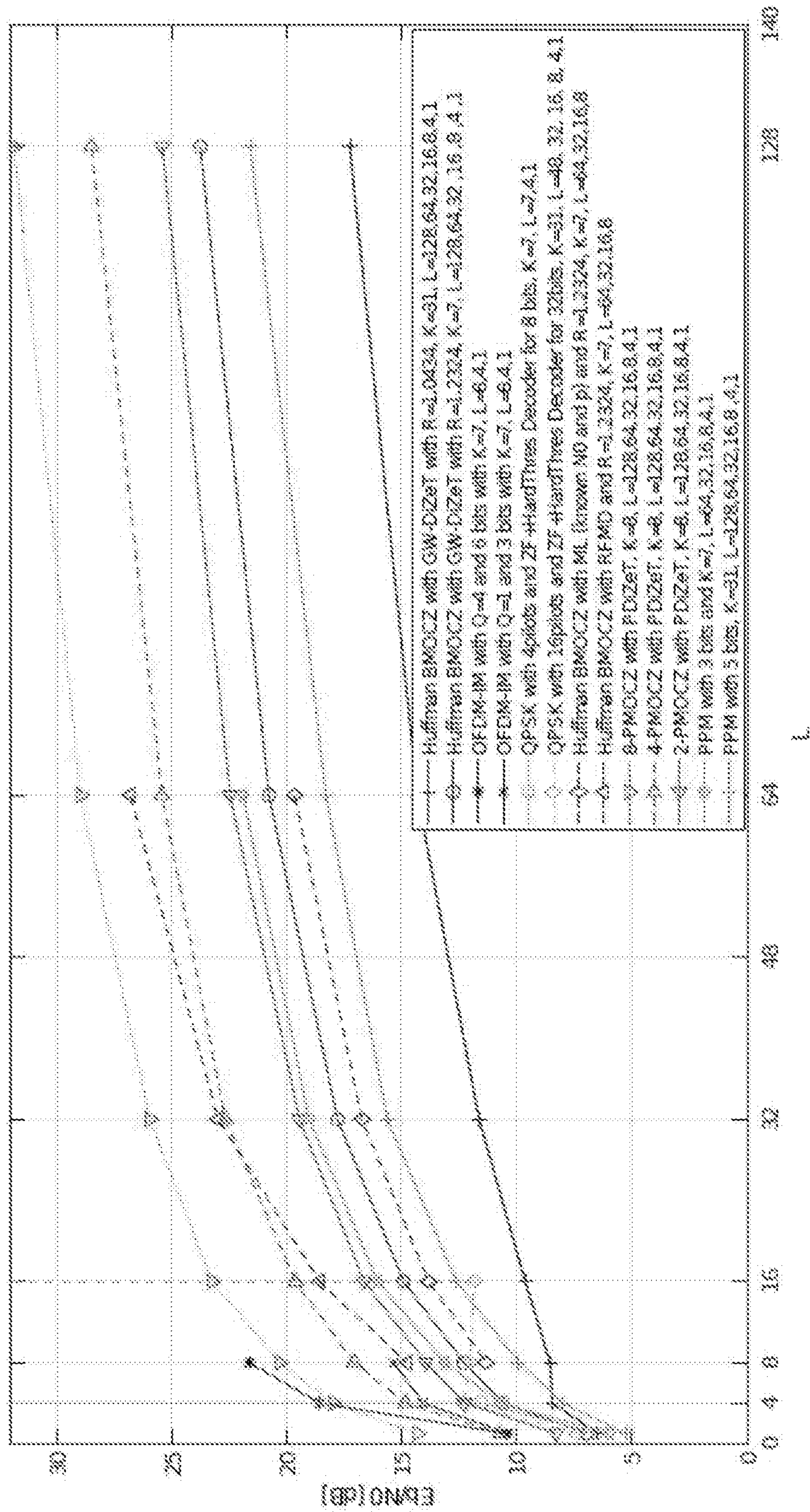


FIG. 15