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 **$(M, \gamma)$ -hyperelliptic semigroups**  
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Recently, we presented some applications of  $\gamma$ -hyperelliptic semigroups to the problem of counting numerical semigroups by genus.

In this talk we present the so called  $(M, \gamma)$ -hyperelliptic semigroups, where  $M \geq 2$  is an integer. If  $M = 2$ , then they are exactly  $\gamma$ -hyperelliptic semigroups. For  $M \geq 3$ , we generalize some results of case  $M = 2$  and show the difficulty of using them to count numerical semigroups by genus.