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## Publisher's Note: Coarse-grained loop algorithms for Monte Carlo simulation of quantum spin systems [Phys. Rev. E 66, 056705 (2002)]

Kenji Harada and Naoki Kawashima  
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This article was published 26 November 2002 with some of the horizontal lines in Table I positioned incorrectly. Table I was corrected online as of 14 March 2003. The initial, incorrect table appears in the printed version of the article. The corrected table appears below.

TABLE I. The coarse-grained algorithm for the XXZ spin models. The density of vertices  $\rho$  and the scattering probabilities of worms  $P$ .  $h \equiv H_p/(2S)$ ,  $\bar{l} \equiv 2S - l$ , and  $\bar{m} \equiv 2S - m$ .

$\Sigma$	Region I	Region II	Region III	Region IV	Region V	Region VI
$\begin{pmatrix} l & m \\ l & m \end{pmatrix}$	$\rho(\Sigma) = A$	$B$	$B$	$B$	$A$	$C$
$\begin{pmatrix} l & m \\ l^+ & m \end{pmatrix}$	$P(\downarrow \Sigma) = 0$	$\frac{m(-J-J'-h)}{2B}$	$0$	$0$	$0$	$\frac{\bar{m}(-J+J'-h)}{2C}$
$\begin{pmatrix} l & m \\ l^+ & m \end{pmatrix}$	$P(\nearrow \Sigma) = \frac{\bar{m}(J+J'-h)}{4A}$	$0$	$0$	$0$	$\frac{\bar{m}(J+J'-h)}{4A}$	$\frac{\bar{m}J}{2C}$
$\begin{pmatrix} l & m \\ l^+ & m \end{pmatrix}$	$P(\rightarrow \Sigma) = \frac{m(J-J'-h)}{4A}$	$\frac{mJ}{2B}$	$\frac{m(J-J'-h)}{4B}$	$0$	$0$	$0$
$\begin{pmatrix} l & m \\ l^- & m \end{pmatrix}$	$P(\downarrow \Sigma) = 0$	$\frac{\bar{m}(-J-J'+h)}{2B}$	$\frac{\bar{m}(-J-J'+h)}{2B}$	$\frac{m(-J+J'+h) + \bar{m}(-J-J'+h)}{2B}$	$\frac{m(-J+J'+h)}{2A}$	$\frac{m(-J+J'+h)}{2C}$
$\begin{pmatrix} l & m \\ l^- & m \end{pmatrix}$	$P(\nearrow \Sigma) = \frac{m(J+J'+h)}{4A}$	$0$	$\frac{m(J+J'+h)}{4B}$	$\frac{mJ}{2B}$	$\frac{mJ}{2A}$	$\frac{mJ}{2C}$
$\begin{pmatrix} l & m \\ l^- & m \end{pmatrix}$	$P(\rightarrow \Sigma) = \frac{\bar{m}(J-J'+h)}{4A}$	$\frac{\bar{m}J}{2B}$	$\frac{\bar{m}J}{2B}$	$\frac{\bar{m}J}{2B}$	$\frac{\bar{m}(J-J'+h)}{4A}$	$0$
$\begin{pmatrix} l+1 & m \\ l^+ & m+1 \end{pmatrix}$	$P(\downarrow \Sigma) = 0$	$0$	$0$	$0$	$0$	$0$
$\begin{pmatrix} l+1 & m \\ l^+ & m+1 \end{pmatrix}$	$P(\nearrow \Sigma) = \frac{J+J'+h}{\bar{l}(2J)}$	$0$	$\frac{J+J'+h}{\bar{l}(2J)}$	$\frac{1}{\bar{l}}$	$\frac{1}{\bar{l}}$	$\frac{1}{\bar{l}}$
$\begin{pmatrix} l+1 & m \\ l^+ & m+1 \end{pmatrix}$	$P(\rightarrow \Sigma) = \frac{J-J'-h}{\bar{l}(2J)}$	$\frac{1}{\bar{l}}$	$\frac{J-J'-h}{\bar{l}(2J)}$	$0$	$0$	$0$
$\begin{pmatrix} l-1 & m \\ l^- & m-1 \end{pmatrix}$	$P(\downarrow \Sigma) = 0$	$0$	$0$	$0$	$0$	$0$
$\begin{pmatrix} l-1 & m \\ l^- & m-1 \end{pmatrix}$	$P(\nearrow \Sigma) = \frac{J+J'-h}{l(2J)}$	$0$	$0$	$0$	$\frac{J+J'-h}{l(2J)}$	$\frac{1}{l}$
$\begin{pmatrix} l-1 & m \\ l^- & m-1 \end{pmatrix}$	$P(\rightarrow \Sigma) = \frac{J-J'+h}{l(2J)}$	$\frac{1}{l}$	$\frac{1}{l}$	$\frac{1}{l}$	$\frac{J-J'+h}{l(2J)}$	$0$
$\begin{pmatrix} l+1 & m \\ l^- & m+1 \end{pmatrix}$	$P(\downarrow \Sigma) = P(\nearrow \Sigma) = P(\rightarrow \Sigma) = 0$ and $P(\uparrow \Sigma) = 1$					
$\begin{pmatrix} l-1 & m \\ l^+ & m-1 \end{pmatrix}$	$P(\downarrow \Sigma) = P(\nearrow \Sigma) = P(\rightarrow \Sigma) = 0$ and $P(\uparrow \Sigma) = 1$					
	$A \equiv \frac{1}{4}[lm(J+J'+3h) + (l\bar{m} + \bar{l}m)(J-J'+h) + \bar{l}\bar{m}(J+J'-h)]$ $B \equiv lmh + (l\bar{m} + \bar{l}m)\frac{-J'+h}{2}$ , $C \equiv \frac{1}{2}[lm(J'+h) + \bar{l}\bar{m}(J'-h)]$					